

Annual Report 2020



UNIVERSITY
OF OULU





Annual Report of the University Board for 2020

Notable events during the financial period

According to its strategy, the University of Oulu is an international research and innovation university that contributes to the resolution of global challenges in its areas of strength. Within these areas of strength, the University's research is internationally cutting-edge, and its research is of international standard in many other fields as well. The university offers research-based higher education and trains young people to serve society and humanity. The university's work produces new research-based knowledge, competence and the experts of the future, as well as opportunities for innovations.

The University of Oulu's strategy is based on five thematic research focus areas of international significance. Within these areas, the university participates in solving global challenges and produces new knowledge in order to build a healthier, smarter, more sustainable and more humane world. These focus areas are:

- **Sustainable materials and systems**
- **Lifelong health**
- **Digitalisation and smart society**
- **Changing climate and northern environment**
- **Understanding humans in change**

In 2019, the University of Oulu adopted an updated strategy for the 2020s. This strategy includes the shared thinking on operating methods which was approved in 2018 and which is summarised in three values that guide our activities: Creating new, taking responsibility and succeeding together.

Now that the University of Oulu has acquired 50.5% of the shares of Oulu University of Applied Sciences Ltd, the University of Oulu and Oulu University of Applied Sciences Ltd (Oamk) form a single enterprise group. Despite this new ownership arrangement, the University of Applied Sciences will remain as an independent legal entity and the institution's funding systems will remain separate. The basic tasks of the two higher education institutions remain in accordance with the Universities Act and the Polytechnics Act, and they have their own tasks and profiles that complement each other. The University of Oulu has implemented higher education services for both institutions since February 2020.

The University of Oulu's position in the Times Higher Education rankings (301–350) decreased from last year (251–300). For Finnish universities, the University of Oulu is still ranked in 3rd–4th place. The University of Oulu's score increased in the areas of teaching, industry income and international outlook, but dropped slightly in the areas of research and citations. The Times Higher Education Impact Ranking has been structured in line with the UN's sustainable development goals (SDG). The University of Oulu participated in this evaluation for the first time, and we were ranked within the 201–300 segment. (5th–6th for Finland). Of the six SDGs considered, we ranked as Finland's best for SDG8 (Decent work and Economic Growth), as joint best for SDG4 (Quality Education) and in second place for SDG9 (Industry, Innovation and Infrastructure).

In the latest QS University Rankings, the University of Oulu dropped from 374th to 408th place in 2020, while remaining in fifth place among Finnish universities. In its 2020 rankings, QS evaluated over 5500 universities from around the world, of which 1000 were included in a more detailed evaluation.

The University of Leiden's CWTS ranking, which are based solely on publications, placed the University of Oulu in 513th place overall and fourth best among Finnish universities. This ranking involved more than 900 universities. As its default indicator, the CWTS ranking weights the total number of publications such that publications shared between several universities receive less weight than publications whose authors are only from one university. In field-specific evaluations, the University of Oulu ranked between 3rd and 8th among the universities of Finland, as measured by the share of publications that were among the top 10% most cited in their field.

In the University of Shanghai's rankings, the University of Oulu's position among the world's top universities fell from the 301–400 segment to the 501–600 segment, while its position among Finnish universities dropped from 2nd–4th to 3rd–5th. The weight given to highly cited researchers is considerable in the Shanghai rankings, and the University of Oulu had lost two of its researchers since the previous rankings were produced. In the next assessment, our position will most likely be lifted again by one of our new researchers, who is a highly cited researcher.

In the AppliedHE Rankometer assessment, which combines the results of five key university rankings, the University of Oulu's was in 366th place at the end of 2020. (3rd in Finland).

The agreement between the University of Oulu and the Ministry of Education and Culture for the period 2021–2024 was renewed during negotiations held during 2020. The agreement includes a shared target state for the university as well as the university's strategic choices, profile and areas of strength, degree objectives, funding, and monitoring principles. The objectives set out in the agreement are derived from the Government Programme, the Government Action Plan, the vision for higher education and research in 2030 and the university's strategy.

Based on its strategy and taking into account the shared target state, the university has identified four key development areas, all of which have been recorded in the agreement together with their descriptions and monitoring indicators:

- sustainable growth and adaptation to its requirements
- cooperation between sectors and actors as a driving force for expertise impact
- learner-centred education for diverse life situations
- digitalisation as a resource for societal change

The agreement's target state is also reflected in the weightings of the reformed funding allocation model, which will be used for the first time in 2021. For example, continuous learning in diverse life situations has become increasingly important, as has the acquisition of research funding from international sources. The university's internal application of the revised funding allocation model was prepared and approved in 2020.

The strategy-based funding for the new agreement period 2021–2024, which supports the Government's higher education and science policy objectives, includes the programme for increasing the level of education and competence, meaning additional starting places, and the internationalisation programme for higher education institutions (total programme funding EUR 40 million). The internationalisation programme continues to be divided into two sections: TalentBoost, which mainly focuses on internal activities within universities, and pilot programmes implemented by university networks in target countries (global pilots). The university's share of funding for the internationalisation programme totalled 10.6%, with the shares for the different programmes being 1.7% for additional starting places, 6.2% for TalentBoost and 8.7% for the global pilots. However, the final funding for additional starting places will depend on the number of students who in the end actually start their studies. The internationalisation programme requires the construction of new ways of operating, and the funding included in the agreement provides a good starting point.

The focus areas for the strategic steering of research in 2020 have been to continue to define the profile of the University of Oulu within the fifth round of the Academy of Finland's university profiling programme, to participate in the sixth profiling programme, and to implement the 6Genesis programme for wireless network technologies, which was included in the new national flagship programme and received a funding decision in 2018. In 2020, a third flagship application process was launched for four-year flagship programmes, and we are participating in a flagship programme centred on gene, cell and therapy research. The focus of the program is on the innovation and commercial development of new biological medicines, biomarkers and diagnostics for the treatment of general chronic diseases. The programme is coordinated by the University of Eastern Finland. 2020 saw the continued implementation of the tenure track programme and continued support for toplevel and key research projects continued. The implementation of the Research Evaluation Exercise (RAE2020) launched in 2019 continued a move forward in 2020.

The University of Oulu has participated six times in university profiling application rounds organised by the Academy of Finland. From 2016 to 2019, nine profile themes were launched, and all these themes continued to run through 2020. In the sixth profiling



application process, which ended in 2020, the University of Oulu's proposal was ranked second and received significant funding for three of its themes: The new research area connected with the 'Arctic Interactions' theme focuses on the promotion of Arctic biodiversity and the interaction between humans and the environment (Anthropocene), the 'Fibrosis Chronic Diseases and Cancer' theme focuses on the obesity and hypoxia caused by fibrosis (Fibrobesity), and the new research area that expands the 6G flagship programme focuses on wireless applications with an emphasis on health and energy systems (6G-FSS).

The university systematically promotes the prerequisites for high-quality research in strategic focus areas and the formation of a top-level portfolio by selecting fixed-term research projects based on open applications and international peer evaluation, the resourcing of which is strengthened through multidisciplinary focus institutes. The focus institutes Biocenter Oulu, Eudaimonia Institute, Infotech Oulu and Kvantum Institute coordinate multidisciplinary thematic entities. Panel evaluations are carried out in cooperation with the Academy of Finland. During 2020, support was provided to a total of 49 strategic key projects within the focus areas of research. These projects can be found in all faculties and across a wide range of research units. At the Kvantum Institute, the selection of key projects for the period 2021–2024 was carried out in 2020. At the Eudaimonia Institute and Infotech Oulu, a project application round was launched in December 2020, and the selection for the period 2022–2025 will be completed in 2021.

In order to promote multidisciplinary and new openings, a programme is under way that involves 19 four-year doctoral education vacancies that are aimed at launching new research openings and disseminating top research expertise more extensively at our university. The Rapid Research Radicals (3R) programme, launched in 2018, has in cooperation with the focus institutes effectively promoted the identification and formation of new ideas and the use of multidisciplinary in research development.

In the Ministry of Education and Culture's 2019 transparency maturity level report, the University of Oulu reached level five, the highest possible. The target set by the Ministry of Education and Culture for the University of Oulu to reach at least level 3 during the 2017–2020 performance period has been realised, as in the 2019 maturity level report we were placed at level 5, the top level. The University of Oulu has purposefully continued to develop a responsible and open scientific community and to broadly strengthen the operating culture required for openness by combining the principles of openness and ethical practice in a new and constructive way within the overall concept of responsibility.

The university's research performance remained close to the record level reached in 2020. Funding from the Academy of Finland's decreased by 5% compared to the previous year, which partly reflects the delays in recruiting new researchers that resulted from the coronavirus epidemic. International competitive research funding increased by 3% (total increase of 72% since 2015). The number of scientific publications fell by 4.6% year-on-year. The number of Jufo-2 publications remained unchanged, while the number of Jufo-3 publications decreased by 13%. Since 2016, the total number of Jufo-2 and Jufo-3 publications has increased by 32%. It should be noted, however, that the publication data for 2020 will be finalised in June 2021, meaning that the final figures will shift in a positive direction. As a notable special achievement in 2020, a University of Oulu researcher in the field of telecommunications technology made it into the list of highly cited researchers. As expected, Business Finland's funding has continued to decrease, falling by 17% compared to the previous year. This decrease reflects the decrease in the funding provider's appropriations and its change in spending policy. Overall, the share of supplementary funding in the total funding slightly increased in 2020 to 39.8%.

The most significant development activities in education were related to the renewal of student selection, digital pedagogy development work and an increase in the online educational offering, as well as an expansion of working life cooperation and the continuous learning offering. In autumn 2020, the strategic priorities for education were updated for the new period 2021–2024 and organised within 9 programmes of measures.

In 2020, the number of completed bachelor's degrees was 1,173, while the target for the period 2017–2020 was 1,290. This figure saw a year-on-year increase of 1.7%. A total of 1509 Master's degrees were completed, which was 7 more than in 2019. The target for the year was 1467. The main factors affecting these figures are ensuring a sufficient number of starting places and taking care that students make it through the programme. The number of starting places for Finnish-language Bachelor's and Master's programmes have been gradually rising

each year since 2016 (2016: 1858, 2017: 2131, 2018: 2140, 2019: 2201), but the number of new students and completion rate have not secured sufficient degree completion in line with the objectives of the Ministry of Education and Culture, particularly at the bachelor's level. The offering and results for the Master's degree level are improved by the degree results for foreign language programmes. The strategy-based funding supporting the Government's higher education and science policy objectives for the new agreement period 2021–2024 includes the programme for raising the level of educational competence, which involves significant educational expansion. As part of this program, 350 additional starting places have been agreed for 2021 and 361 for 2022, mostly in the fields of technology, data processing and information technology. As a new programme with 40 starting places, the university received the right to offer a degree in psychology. This programme will begin in autumn 2021.

In the academic year 2019–2020, the percentage of students who completed 55 credits (using the calculation method from the funding model) increased to 52% of undergraduate students. In the previous academic years 2018–2019 and 2017–2018, the corresponding figures were 50.8% and 50.4%. Compared to the previous academic year, 75 more students (1.3% increase) completed 55 credits within the calculation limits of the current agreement period. During the new agreement period 2021–2024, the most important indicator for measuring smooth progress of studies will be the number and share of Bachelor's or Master's degrees completed during the target period.

Following the record year 2018 (199), the number of doctoral degrees completed in 2020 was once again at a more normal level (143, compared to 158 in 2019), remaining 4.7% below the target set by the Ministry of Education and Culture.

The aim of the university's central campus project is to create campus environments that support the attractiveness of the university and the City of Oulu as a university city, since competition for students and staff is tightening as the size of these age groups decreases. Just like other comparable cities, the University of Oulu is aiming for a central campus that would be easily accessible by public transport, by bicycle and on foot as well as being well connected to the city's services. In autumn 2020, the university, the Arina Co-operative Society and Kesko applied for and received a planning reservation for the market plot in Raksila, and the planning reservation report must be ready by 31 March 2021. The project plan, which must be completed by the end of 2021, will provide the University of Oulu with the necessary information for the investment decision and initiation of the planning process.

The COVID-19 pandemic rapidly changed the operating environment of the university at many levels and required an immediate response through measures such as establishing an Operations Team and Preparedness Team. The teams regularly monitored the risks and safeguarded the continuity of operations. For example, the entrance examinations had to be carried out remotely on a very tight timetable, and the teaching had to be transferred online. With regard to digitalisation, the university has taken a leap forward, seeing a multiplication of online courses that can be taken wherever and whenever.

A large amount of training in digital pedagogy has been provided, and staff competence in this area has increased significantly as the level of support has increased.

The pandemic situation prevented regular face-to-face encounters and events, and activities were shifted online as much as possible. The restrictions also largely halted international researcher visits to the University of Oulu from March 2020 onwards. Despite the restrictions of the pandemic, cooperation with EU stakeholders has been maintained and strengthened. The university has organised remote meetings with the European Commission and the European Parliament, as well as with other influential stakeholders in Brussels.

The investment markets recovered rapidly from the collapse caused by the pandemic thanks to the rapid stimulus measures of central banks and states, and the return on investments at the University of 2020 attained at least a reasonable level. In addition, the decrease in travel and acquisitions resulted in significant cost savings.

Based on the pulse surveys, the employees of the University of Oulu have managed fairly well in a situation where their work has mostly been carried out remotely. However, significant variations began to be seen in the staff members' experience of remote work during the exceptional situation: some experienced greater strain, which others felt their well-being had increased. Furthermore, the November 2020 pulse survey showed that the work-life balance had been challenging for staff members.

Education

In 2020, the University of Oulu continued to implement, as part of the ongoing strategy period, the 2016–2020 strategic action plan for education. Its objectives are:

1. **Improving the attraction of the education provided and student engagement**
2. **Promoting the smooth progress of studies**
3. **Modernisation and digitalisation of learning environments and pedagogic development**
4. **Internationalisation of the studying experience**
5. **Increasing interaction between education and working life**
6. **Effective doctoral education**

The measures have been implemented through strategic education funding, faculties' own investments and appropriate separate funding from external sources. The main focus of the measures has been on revising the structure and content of the curricula and study units in the faculties (taking into account the changing competence needs of working life), the development of teaching methods (expanding online and multiform teaching) and developing the production of content aimed at new student groups (expanding the offering of the Open University, taster courses for upper secondary school students).

In addition, funding has been used to support training in university pedagogy and digital pedagogy and to develop orientation and guidance for international students. Together with the Programme Directors, the Education Dean has been responsible for the planning, implementation and reporting for each Faculty Development Programme. A requirement for these programmes is that they are linked to the focus areas in the university's strategy.

The year 2020 was overshadowed by a pandemic caused by the COVID-19 virus, which radically changed the university's operations in the spring. The entrance examinations had to be carried out remotely on a very tight timetable, and teaching

had to be transferred online. The rapid adaptation to the situation also meant that the implementation of some projects had to be delayed. In particular, measures for the development of continuous learning had to be postponed to 2021.

In the autumn, preparations were being made for the start of the next strategy period, with the focus on shaping the 2021–2024 programme of measures and defining the new objectives.

In 2020, the following measures have been implemented as part of the programme of measures:

1. **Improving the attraction of the education provided and student engagement**

Five new degree programmes and 11 other new places were established at the University of Oulu. Applications to these can be submitted in the spring 2021 joint application process. The new options will focus on areas in need of additional labour and skilled workers, such as computer science telecommunications technology, and also on the field of health and well-being. In addition, a significant development for 2020 was that the university obtained educational responsibility in the field of psychology and established a degree programme for this field.

Within the international master's programmes, five workshops on finding employment in Finland were carried out. In addition, UniOGS implemented a two-credit module for doctoral programmes on working life and finding employment.

New guidelines were drawn up for directing the activities of tutor teachers. The pre-orientation was developed as part of small group guidance work and student communication. Despite the coronavirus situation, efforts were made towards the internationalisation of the student experience by providing opportunities for study and trainee exchanges as well as opportunities to be a 'kummi' (a kind of mentor) or a small group leader for international students.

A leap forward in the promotion of internationalisation was taken when the University of Oulu became part of a network initiative involving 280 European universities: the 'University



Network for Post-Industrial Cities' project (UNIC), which is being implemented with Erasmus+ funding. The project was launched and resourced in 2020. The aim of the project is to create permanent, extensive educational cooperation through mutual study approvals, degree programmes and exchange programmes.

2. Promoting the smooth progress of studies

To promote the smooth progress of studies, specialised career and study guidance services were provided to international students. In addition, closer cooperation and communications between the university and its student union (OYY) increased international students' awareness of available services. In addition, the following new services and courses were developed:

- Learning skills Moodle course
- Independent study support package, Self-study materials for students: Distance learning tips, 'Learning skills and techniques' palette, Calendar skills for time management, Tips for not procrastinating
- Multidisciplinary thesis groups for Bachelor's and Master's students
- Tools for tutor teachers for student guidance and promoting progress in studies, tutor teachers' Moodle environment.

The guidelines for curriculum work at the University of Oulu were updated to serve as the basis for curriculum work. These guidelines emphasise digitalisation, the competence needs of the future, working life skills and learner orientation. The structures and scheduling plans for the curricula were created for the first time in the Peppi system. As in previous years, the preparation of curricula sought to ensure a balanced study workload and to avoid overlapping of compulsory studies in students' school timetables. A website was provided for teachers on alternative assessment practices for distance teaching, instructions were prepared for remote supervision of remote exams, and training was arranged for learning assessment. Feedback on the quality of education was collected from different channels (bachelor's degree feedback, ISB feedback, study unit feedback, follow-up career surveys at master's and doctoral level) and processed in accordance with quality management procedures. We also participated in the national project 'KAPPAS! Assessment of the learning outcomes of higher education students in Finland', which examined the level of students' generic skills and addressed how generic skills can be strengthened throughout the educational path. In addition, development work aimed at promoting the smooth progress of studies was carried out in relation to data protection, information security and accessibility of learning environments.

3. Increasing interaction between education and working life

In 2020, Group-based job search coaching was implemented for a variety of groups, including Tellus and UniOGS workshops, meetings offered for tutor teacher groups. The students were introduced to employers through visits to companies in the area and visiting lectures. Information continued to be provided on companies' traineeships and work opportunities. Familiarisation with the working life perspective was provided to tutor teachers through tutor teacher trainings and also as a Moodle training.

Oulu Talent Hub was launched as a stakeholder cooperation, the work of BusinessOulu Työn Taitajat continued, the working group on the well-being of higher education students was launched (City of Oulu, Social Insurance Institution of Finland, and other higher education institutions), and cooperation continued with the Urasampo project.

In 2020, a career advisor position was established specifically for international students. The Aarresaari Valojobs Job Portal, which is specifically aimed at students, was developed and launched in cooperation with the universities of Lapland and Vaasa. In addition, 2020 also saw the launch of a mentoring programme for alumni.

4. Effective doctoral education

In 2020, the University of Oulu Research School (UniOGS) responded to the challenges of the exceptional year by reshaping operating models into a more digital format, enabling services to be provided to all doctoral education reference groups in remote form as well. The general courses and preparedness courses of the researcher school were all implemented remotely. Some of the studies will continue to be implemented independently of time and place, including the

'Introduction to doctoral training' course, which is normally taken by doctoral researchers at the beginning of their studies. In addition, last year

saw the launch of a multidisciplinary 'Arctic Attitude Winter School' aimed at doctoral researchers, in which training was provided through intensive courses. Those completing their doctoral dissertation were offered support for the writing process through doctoral 'train and depot' courses. Those who completed their doctoral dissertations were able to defend their work through remote public defences which, as a new operating model, have been developed to run smoothly while at the same time opening up the public defences to a wider audience. The final phase of doctoral education has been reformed by shortening the public notification period for doctoral dissertations and by bringing the work to the attention of science in a new way and more prominently in front of campus libraries. The requirements for monitoring groups have been reviewed to better correspond to the needs and resources. Travel grants are also granted for distance courses and conferences. In addition, an Industrial Doctorate model has been developed within the framework of the TinyTOT project and in cooperation with UniOGS and the University of Oulu Innovation Centre. This model involves implementing doctoral education in close cooperation with a partnering company.

5. Modernisation and digitalisation of learning environments and pedagogic development

The year was overshadowed by the large changes brought about by the epidemic situation and the pedagogical development required by these changes. With regard to digitalisation, the university has taken a leap forward, seeing a multiplication of online courses that can be taken wherever and whenever. A large amount of training in digital pedagogy has been provided, and staff competence in this area has increased significantly as the level of support has increased. A total of 150 short training courses in digital pedagogics were organised for teaching staff during the year. For example, a total of 79 training sessions were organised in the Moodle learning environment, and a total of 3426 service requests were responded to by the Moodle service desk. The number of Moodle users increased by almost 3000 in 2020 (from 15864 to 18853) and the number of Moodle courses increased by more than 3500 (from 3030 to 6576). The DIGIT strategy project focused on 50 study units aimed at digital pedagogical development. The number of courses completed through distance learning saw an increase on previous years, approaching even the 100% mark. A self-assessment survey of digital pedagogical competence was implemented for teaching staff. The responses were then utilised in development discussions when planning the development of teachers' digital pedagogy skills. Regarding the university pedagogy studies organised by the Faculty of Education (YPE), 14 people completed 25 credits worth of studies in 2020 and 8 completed 35 credits worth. In addition, a total of 37 people participated in the 5-credit 'introduction to university pedagogy studies' course.

During the year, the University of Oulu prepared to join the national Digivisio2030 project, which includes 35 Finnish tertiary-level education organisations. The project is developing a common system and information service platform that enables the development of the consistency of educational supply, students' independent management of their own data, knowledge-based management and digital pedagogy. The project was launched at the turn of the year with EUR 20 million of funding from the Ministry of Education and Culture.

Helka-Liisa Hentilä served as the Vice Rector of Education until 15 July 2020, and was then succeeded by Tapio Koivu.

Key Figures of Education 2016–2020

Year	2016	2017	2018	2019	2020
Master's degrees	1,445	1,332	1,315	1,502	1,509
Bachelor's degrees	1,273	1,255	1,181	1,153	1,173
Credits produced by the organisation	435,835	429,628	430,841	439,118	462,618
Master's degrees completed by foreign students	128	137	145	254	173
Number of students who completed 55 credits	5,579	5,647	5,653	5,806	5,881



Research

Work on defining the research profile of the University of Oulu continued in 2020 with preparations for the sixth round of the Academy of Finland's University profiling programme. The flagship programmes support new creative research and lay the foundations for business opportunities and the development of cooperation with other actors in society through a long-term four- or eight-year action plan. 2020 was the third year of operation for the 6G flagship programme at the University of Oulu, and a new national flagship programme GeneCellNano was launched through the new application round. This new programme will speed up the introduction of new biological medicines for the treatment of severe chronic diseases. This new flagship programme is led by the University of Eastern Finland, with the University of Oulu taking the assistant leader role as one of three partnering organisations. Other key actions taken for strengthening research were supporting top-level research and key research projects, implementing a national health strategy, recruiting high-quality international researchers through the tenure track process, supporting doctoral education, carrying out infrastructure-

The flagship programmes support new creative research.

related measures, and implementing responsible research policies in research units. The focus area and research unit structure supports the strategic steering of research and the monitoring of performance as well as the allocation of resources to high-quality research groups. Cooperation with research institutes has been strengthened through the use of joint professorships. All development measures aim towards the promotion of quality, internationalisation and impact.

The purpose of the competitive funding provided by the Academy of Finland for the profiling of universities is to support and accelerate profiling in line with university strategies in order to develop the prerequisites for improving the quality of research. In 2016, two profiling themes were launched at the University of Oulu: Earth and near-space system and environmental change and anywhere wireless sensor systems. 2017 saw the launch of the project for integrating physics and steel research in a multidisciplinary centre for world-class steel research and for combining medical, biomedical and human sciences research to study the important fibrosis process as a risk factor for diverse chronic diseases and premature ageing. In 2018, two more themes were launched: 'Arctic interactions: understanding the responses of nature and humans as part of curbing global change' and 'Generation Z and beyond: strengthening human capabilities in a digitalising world'. In 2019, the University of Oulu's profiling proposal was ranked third among all universities for the second time running. Within this fifth round, three more themes were launched: digital health (DigiHealth), non-organic circular economy side streams (InStreams), and strengthening of mathematics and AI competence (HiDyn), the last of which is aimed at strengthening all of the themes already established. Three themes were prepared for the sixth profiling round: Research on biodiversity and the coexistence of species in the Arctic region (Anthropocene), research on obesity-related fibrosis (Fibrobesity) and research on digital health services and sustainable energy systems enabled by 6G (6G-FSS). These three themes do not form new areas of profiling but rather support the existing ones. The University of Oulu's profiling proposal was assessed as the second best among all universities, and the themes will be launched in 2021.

The activities of the 6G flagship programme have remained strong and its role as the world's leading 6G research hub has further strengthened. During 2020, more than 400 experts worked within this flagship programme at the University of Oulu. A total of 18% of the research staff (career grades I–IV) were women and 56% were international recruitments. In 2020, 459 peer-reviewed articles were published, and the number of citations of these was twice as high as the average for the field (FWCI). In addition, 24% of these were in the 10% most cited publications list (Scopus analysis). Peer-reviewed publications in 2020 also saw an enhanced emphasis on cooperation, with 70% of them being international joint publications and 12% being joint publications with companies. In 2020, the flagship published 11 new 6G white papers which involved contributions from over 250 experts from more than 100 organisations and more than 30 countries. The white papers dealt with future 6G systems, examining them from the perspectives of sustainable development, new business activities and new technologies. The flagship also implemented the second 6G wireless international conference as an online conference. Overall, the international visibility of the flagship has been significant.

The research on the University of Oulu's five focus areas is carried out in faculties. The focus institutes Biocenter Oulu, Eudaimonia Institute, Infotech Oulu and Kvantum Institute coordinate multidisciplinary thematic entities. These institutes support networking between disciplines, cross-disciplinary projects and doctoral education that cross faculty boundaries, and are also responsible together with communications and research services for open websites that cover the activities of the focus areas. The Thule Institute is the coordinator of Arctic activities, including cooperation with the Arctic University Network.

The university systematically promotes the prerequisites for high-quality research in strategic focus areas and the formation of a top-level portfolio by selecting fixed-term research projects based on open applications and international peer evaluation, the resourcing of which is strengthened through multidisciplinary focus institutes. The New Biocenter Oulu projects for the period 2020–2023 have been launched, and the Kvantum Institute projects for the period 2021–2024 were selected in autumn 2020. The project application rounds for Eudaimonia and Infotech Oulu for the period 2022–2025 were opened in December 2020. During 2020, support was provided to a total of 49 strategic key projects within the focus areas of research. These projects can be found in all faculties and across a wide range of research units. In addition, 19 four-year projects are under way that are steering doctoral training vacancies towards both supporting the research of group leaders in the early stages of their independent research activities and linking said research to key projects.

The University of Oulu is currently carrying the Research Assessment Exercise (RAE2020), a comprehensive evaluation of international research that is conducted every six to seven years, and this will be completed in 2021. The assessment results provide an important contribution to the university's strategy process. The targets of the assessment include 65 research units across the different faculties of the University of Oulu as well as the Sodankylä Geophysics Observatory, Kajaani University Centre and Kerttu Saalasti Institute. The objective of the RAE2020 evaluation is to identify at both the university and research-unit level research quality, strengths, areas for development and formation of critical mass as well as internal, national and international linkages, scientific and societal research impact and new openings. In addition, the unit activities are assessed in terms of the updated strategy of the faculties and university.

The Rapid Research Radicals (R3) programme has been implemented in the Tellus operational environment. The objective of this programme is to promote the identification and formation of new ideas and the use of multidisciplinary in research development. The R3 activities have facilitated and supported the focus research institutes to initiate and develop multidisciplinary activities within and between focus areas. These activities include regular science coffee breaks and breakfast events that are open to everyone, brainstorming forums, lunch seminars and meetings of top researchers. In 2020, the pandemic situation prevented regular face-to-face encounters, with activities being transferred online as much as possible. The monthly lunchtime Brown Bag research seminars attracted participants also in online form, and two Twitter conferences were organised (on the topics of 'Digihealth + 6G' and 'steel research & low-carbon materials'). The conferences reached record levels of popularity, being read more than 100,000 times by more than 100,000 users. The Meet the Top Scientists seminar was also organised in online form in autumn 2020.

The Academy of Finland's Centre of Excellence Programme included one unit from Oulu during the period 2012–2017 and two units during 2014–2019 (in the fields of medicine, geography and physics). In addition, researchers at the University of Oulu are participating in three other Centres of Excellence that are coordinated by other bodies (two in the fields of mathematics and one in the field of electronics). During the new period 2018–2025, researchers from the University of Oulu will participate in one unit coordinated by another body (in the field of mathematics). The University of Oulu supports these centres in accordance with the agreements made with the Academy of Finland.

In 2020, the University of Oulu had five research groups funded by the European Research Council (ERC) (two in natural sciences, one in medicine, one in humanities and one in information and electrical engineering). In addition, a positive funding decision was received in 2020 for one ERC project (ERC Consolidator Grant). There was one Academy Professor at the University of Oulu in 2020, and one new Academy Professor was obtained in the application process that ended in 2020. The aim is to further increase the number of ERC funded projects and academy professors.

Work on the formation of competitive research environments also includes several collaborative projects and programmes. The Academy of Finland has established a Strategic Research Council, the funding of which aims to support knowledge-based management, solutions for the renewal of Finnish society and ideas relating to the future of business and working life. Researchers at the University of Oulu currently coordinate one project and are partners in another project coordinated by the University of Eastern Finland.

The Medical Research Center (MRC) serves as a joint research cooperation organisation for the University of Oulu and the North Ostrobothnia Hospital District. Together with the North Ostrobothnia Hospital District, the University of Oulu is an active player in the implementation of the National Strategy for Research and Innovation in the Health Sector in Biobank, Genome, Cancer and Neuroscience Research. In order to develop the growth strategy for health sector research and innovation activities, which was published in 2014, we have proposed to the Ministry of Social Affairs and Health the establishment of Finland's Digital Health Centre of Excellence and the granting of the role of national coordinator to the University of Oulu. Since then, we have also participated in the preparation of the updated growth strategy for health sector research and innovation activities, which was published in 2020 (Road Map 2020–2023 – sustainable growth and well-being) and proposed the inclusion of digital health in the new strategy. In line with the new roadmap, assessment will be made of the need for a national network for cooperation on health technology and, if it is needed, the formation of the network will be initiated. The University of Oulu is actively involved in this assessment work.

The University of Oulu engages in extensive cooperation with state research institutes, many of which have connections with the university's campuses. Several new joint professorships and other vacancies have either been agreed upon or are currently in planning, and the joint use of research infrastructures will be made more efficient. Cooperation with the Finnish Meteorological Institute has been strengthened through the Sodankylä Space Center activities launched in 2019 and the establishment of a joint professorship, and cooperation has intensified with other research stations, such as the Pallas and Oulanka units. In 2020, a joint professor of biosensors and microfluidics began their work in cooperation with VTT Technical Research Centre of Finland.

The University of Oulu is strengthening its Arctic research through both the Arctic profiling measures described above and the Thule Institute. The universities of Oulu and Lapland have strengthened their cooperation, especially in Arctic research, by applying for joint research

The University of Oulu is responsible for coordinating the thematic networks and research activities of the University of the Arctic.

themes in annual workshops led by a joint advisory board. No such workshop was held, however, during the 2020 pandemic year. The University of Oulu is responsible for coordinating the thematic networks and research activities of the University of the Arctic. The activities carried out within the framework of the University of the Arctic will be strengthened, and an American researcher recruited to the University of Oulu in 2017 will continue in their role as the first research chair for the university. Researchers at the University of Oulu have also joined several of the University of the Arctic's thematic networks, either as members or leaders. Thematic networks act as an operating environment for joint research and education and also strengthen international research activities at the University of Oulu. The University of Oulu has strong representation in many Arctic working groups and other institutions, including the renewed 2019 presidency of the European Polar Board and the Arctic Council's Sustainable Development Working Group. The Arctic 5 cooperation between the universities of Oulu, Lapland, Luleå, Umeå and Tromsø, which was launched in 2017, strengthens the interaction between these universities in Arctic research and education. In 2019, a network of Arctic researchers was launched as part of the Thule Institute to strengthen Arctic research cooperation and planning of multidisciplinary projects involving the University of Oulu and research institutes operating on the university campus. In 2020, this network had more than 150 members.

The University of Oulu's new strategic international cooperation network, UNIC, launched its operations in autumn 2020. Composed of eight different universities, UNIC is an alliance within the European Universities Networks (EUN) aimed at support the formation of the European Higher Education Area (EHEA), and it was selected in the financial instrument's second round of funding in summer 2020. The University of Oulu is thus involved as one of

280 institutes of higher education that comprise a total of 41 project consortia made up of different European universities. Universities in Europe are building a common long-term strategy for the development of education, research and innovation activities. In practice, the aim of the activities is that students can seamlessly include studies from other higher education institutions in their degree, with virtual and physical mobility being an integral part of students' studies. For the development of the structures for research and innovation cooperation, the UNIC Alliance submitted in November 2020 a Horizon funding application under the leadership of the coordinating university Erasmus University Rotterdam.

Central to the UNIC network is a strong link between universities and cities in the post-industrial UNIC cities, which are all facing structural change. Through the network's activities, we get to deepen our exploration of post-industrial phenomena and the building of the future through collaboration with the university, the city, urban residents, companies and other stakeholders. One key phenomenon that UNIC focuses on is 'superdiversity', which is the development of diversity and inclusion skills and practices. A key tool for enabling dialogue and co-creation is UNIC CityLabs, and the University of Oulu is playing a key role in developing this organisation.

The use of international application procedures for filling professorships has been strengthened, and the guidelines for tenure track and professorship recruitment introduced in autumn 2018 have been revised on the basis of the development needs identified in 2020. The new policies and guidelines will be introduced in spring 2021 and are aimed at streamlining recruitment processes. These guidelines recommend, among other things, the use of professor-level researchers working in foreign institutions as external experts and a minimum 30% representation level for both genders among experts. In 2019–2020, the share of female experts rose from below the guideline value to 34–39%. The aim is to achieve the recommendation given in the Equality Act, according to which the representation of both genders among experts should be 40%. The purpose of the tenure track programme is to recruit particularly promising young researchers and leading researchers in their field. We implement tenure track recruitments within the national university profiling programme, and faculties also fill some of their vacancies through the tenure track career path. A record-breaking total of 33 tenure track recruitments were approved in 2020, with the corresponding figures for 2018 and 2019 being just 20 and 11 respectively. The University of Oulu also allocates strategic funding to new ad hoc top-level recruitments that support its spearhead profile.

The aim is to reduce the average age of doctoral degree completion, which will also promote the career development of young researchers.

strategic recruitment.

The University of Oulu Graduate School (UniOGS) operates on the basis of selected and uniform policies on student admission, shared degree components, student guidance and legal protection. Efforts are made to promote study completion, graduation within the four-year target period, and relevance to working life. The aim is to reduce the average age of doctoral degree completion, which will also promote the career development of young researchers. International mobility is also promoted. UniOGS doctoral education has been organised into four programmes that cover the university's focus areas. These four broad and multidisciplinary programmes are positioned within the fields of humanities, health and life sciences, technology and natural sciences, and information and electrical engineering. All the programmes have a coordinator responsible for organising academic training, and UniOGS also has coordinators who take care of general studies and degree processes. The University has around 165 strategically funded doctoral degree vacancies. Some of these are directed towards selected projects as applications to project positions at focus institutes, while others are put out as open positions by the Graduate School's committees. A more detailed description of the development measures for 2020 can be found in the Education section of this report.



The University of Oulu's infrastructure unit handles the university's extensive international, national and cross-faculty internal infrastructures. These university-level infrastructures include the Biocenter Oulu Infrastructure Centre BCO-CORE, the Biodiversity Unit, the Laboratory Animal Centre, the LeaF Infrastructure, the Centre for Material Analysis and the Oulanka Research Station. The service capacity, operations and marketing of these are being enhanced by a joint steering group of leaders led by the Vice Rector of Research. New resource management software was introduced in 2020 to enhance the marketing, usage, monitoring and reporting of infrastructures. In addition, a central presentation portal was opened for research and laboratory services.

The Academy of Finland opened an application round for the new national roadmap for research infrastructures (2021–2024). In total, 11 of the University of Oulu's infrastructures were selected for the roadmap, and three of these are coordinated by the university: Research Infrastructure for Future Wireless Communication Network, FUWIRI; Earth-space research ecosystem, E2S; and Printed Intelligence Infrastructure, PII. FUWIRI offers business and research partners full mobile network capability from 5G to mm frequencies, and it will be developed in the 2020s towards a 6G test network and terahertz frequencies. The University of Oulu participates as a partner in eight national infrastructures: Finnish Biodiversity Information Facility, FinBIF; Biocenter Finland, BF; Euro-BioImaging Finland, EuBI-Fi; FIN-EPOS – a Finnish national node of European Plate Observing System, FIN-EPOS; Finnish Computing Competence Infrastructure, FCCI; Structural Biology Finland, FinStruct & Instruct-ERIC Centre FI; Finnish Research Infrastructure for Population Based Surveys, FIRI-PBS; Biobanking and Biomolecular Resources Research Infrastructure of Finland, BBMRI.fi. The University of Oulu is also a partner in the Institute for atmospheric and Earth system research (INAR RI), although it does not function as a main partner.

In addition, the Academy of Finland opened in 2020 an additional funding application round for FIRI research infrastructures. Unlike the usual FIRI funding application round, the Academy will use this round to support the development of research infrastructures that are carried out in cooperation with the business community and whose aim is to create a platform in which research, education and innovation can intermingle and develop side-by-side.

Through this additional application round, three projects were launched at the University of Oulu, two of which are also coordinated by the university: Earth-Space Research Ecosystem (E2S-industry) and Research Infrastructure for Future Wireless Communication (FUWIRI-6G).

In addition to the above-mentioned infrastructures, the faculties have some other significant infrastructures, including the Faculty of Technology's mini-pilot laboratory for the mining sector and the Faculty of Information and Electrical Engineering's Open UBI Oulu real-world laboratory and FabLab education and research environment. In conjunction with the Faculty of Medicine, the University of Oulu set up in 2020 an Arctic biobank to enable both the continuation of research into valuable birth cohorts in Northern Finland that have been studied since 1965, and the university is also participating in the Borealis Biobank of Northern Finland, whose other shareholders are the hospital districts of Northern Finland and Nordlab Laboratory.

The University of Oulu coordinates the participation of Finland in two infrastructures of the European Strategy Forum on Research Infrastructures (ESFRI): INFRAFRONTIER Finland, that deals with life and medical sciences, and both EISCAT and EISCAT_3D (ISR radar system), that deal with physics and materials sciences. In addition to these, Finland is also participating in Max IV (synchrotron radiation facility in Lund). In addition, the University of Oulu is involved in seven other ESFRI infrastructures: EPOS (European Plate Observing System), BBMRI (Biobanking and BioMolecular Resources Research Infrastructure), Euro-BioImaging, INSTRUCT (Integrated Structural Biology Infrastructure), CLARIN (Common Language Resources and Technology Infrastructure), eLTER RI (The Finnish Long-Term Socio-Ecological Research) and AnaEE (Analysis and Experimentation on Ecosystem).

In the field of health research, preparations were made in 2020 for the establishment of the National Neuro Centre, led by the University of Eastern Finland, and the Finnish Medicines Agency, led by the University of Turku.

With regard to structural fund applications (ERDF and ESF), the university has established a twice-a-year recurring application process in which researchers present their project idea to the university's management before applying. The university's management gives feedback on the project ideas, including guidance on preparing the applications. The actual applications are placed in priority order by the faculties and the university, with emphasis placed on how well they fit with the university's strategy. As part of the application process, the prioritisation order is shared with the Regional Council and ELY Centre for Northern Ostrobothnia. Structural fund projects are particularly important in the development of regional infrastructure and development projects, both of which also benefit the region's commerce and industry. In addition, the university has actively commented on the draft programmes for the forthcoming structural fund period (2021–2027) and participated as an expert member in the activities of the regional cooperation group (MYR).

The university promotes openness as a fundamental value of science.

In 2020, the University of Oulu signed the international DORA Declaration, through which the university commits itself to developing research evaluation and using responsible metrics. At the same time, the university established a working group for developing the responsible evaluation of researchers in order to ensure the implementation of the commitments made. The university also signed the National Declaration on Open Science and Research 2020–2025 and has thus agreed both to promote openness as a fundamental value of science in all the activities of the research community and to strengthen general knowledge and innovation activities within society.

The University's Responsible Research Programme, launched in 2018, was supplemented in 2020 with a policy on the openness of learning. The university also became the first in Finland to draw up a Declaration of Responsible Science, through which it commits itself to promoting open and responsible science, good scientific practices, sustainable development, equality and non-discrimination in research, and responsible research evaluation. The Declaration will be published on the new and improved website in February 2021. At the same time, updated versions will also be available for the principles of open science and the guidelines for publication, research data and open research infrastructures.

Eight part-time data experts with research backgrounds have continued to support researchers in the areas of data management and sharing, research data protection issues (GDPR) and funding application-related data management plans. They have also been responsible for the first, mandatory part of the data management course added to the UniOGS course offering and for preparing the data protection course for the whole community.



The share of open publications increased in 2020, and the co-authoring of publications has seen systematic progress. The University of Oulu is also one of the top universities in Finland for self-archiving. The university adheres to national and international requirements for responsible and open science and research, while also taking into account the requirements of innovation activities and privacy protection.

In the Ministry of Education and Culture's 2019 transparency maturity level report, the University of Oulu reached level five, the highest possible. This meant that the university had obtained the target set by the Ministry of Education and Culture to reach at least level 3 within the 2017–2020 performance period. The University of Oulu has purposefully continued to develop a responsible and open scientific community and to broadly strengthen the operating culture required for openness by combining the principles of openness and ethical practice in a new and constructive way within the overall concept of responsibility.

Presentation of research and popularisation of science: In order to strengthen science communication within the different faculties, designated communications experts assist researchers in obtaining visibility for their research in conventional media and social media at the national and international level, making use also of various types of events. One of the goals is also to increase the societal impact of research.

In 2017–2020, an ESI project (vitality and sustainability through innovation cooperation) was implemented with ERDF funding under the leadership of the University of Oulu and in cooperation with Oulu University of Applied Sciences, the Finnish Environment Institute and Natural Resources Institute Finland. The City of Oulu is also involved in the project funding and project steering group. The aim is to promote cooperation between companies, research institutes and urban residents in facilities that support creativity and well-being. As part of this project, construction of a meeting place for companies, the scientific community and the general public was completed in 2020 within the green environment of the botanical garden. This space presents the expertise of science and environmental companies, offers creative facilities and a natural environment, and hosts activities and events for different target groups. The virtual showroom developed within the project presents business and research expertise from the cleantech/bioeconomy sector. After the project, this Science Garden will continue as a display window for the university and part of its permanent activities. During the project preparation, the renovated facilities have been available for use free of charge for events organised by the target groups. Between January and September 2020, there were 72 such events and meetings involving a total of 981 participants. Based on the door count, the number of events decreased by about half due to the COVID-related restrictions on the organisation of events.

The university's active role in EU matters has been further strengthened in 2020. The university has prepared several statements on the EU's Horizon Europe 2021–2027 framework programme and other key programmes and strategies such as the EU's industrial strategy, and it has actively engaged in consultations organised by the Commission on, for example, the European Research and Training Area.

Despite the COVID-19 situation, cooperation with EU stakeholders has continued to strengthen. The university has organised remote meetings with the European Commission and the European Parliament, as well as with other influential stakeholders in Brussels. For example, the university management met in December with key officials involved in EU research, education and science policy at a three-day series of online meetings which were organised in cooperation with the universities of Eastern Finland and Lapland. The University of Oulu also organised in February a joint training and advocacy trip to the European Commission and Parliament with the Class 19' (future research leaders) group.

The university has organised several online events in cooperation with people who have influence in Brussels and has invited speakers from the EU, including members of the European Parliament, to its own events. A partnership event for EU Green Week 2020 took place in October at the university's Science Garden, and the event was tied to a previous statement issued on the EU's biodiversity strategy. In addition, the university participated during 2020 in a number of Horizon Europe remote events and also attended the Research and Innovation Days organised by the European Commission.

In addition to the university's rectors, a number of other university employees have become active in advocacy work, including the faculty deans, the directors of the focus institutes

and other university management personnel. Researchers have been activated by receiving information on topics such as applying for membership of EU expert networks, key events, Commission consultations and other possibilities for networking and influence. In addition, two training events for researchers were organised in spring 2020 on the topics of EU networks and advocacy work. The coordinators of the university's EU research networks have been contacted, and assessment has been made of the utilisation of the networks and the need for support.

Key Figures of Research 2016–2020

Key Figures of Research	2016	2017	2018	2019	2020
Research funding from the Academy of Finland, EUR 1,000	22,327	21,722	23,943	26,826	25,484
Business Finland funding*, EUR 1000	15,007	12,831	11,277	9,204	7,607
International competitive research funding, EUR 1000	6,647	7,421	8,661	9,793	10,103
Share of supplementary funding of total funding	34.3%	35.9%	37.3%	39.5%	39.8%
Jufo-1 publications, pcs**	1,408	1,563	1,649	1,745	1,637
Jufo-2 publications, pcs**	510	575	618	707	706
Jufo-3 publications, pcs**	220	216	250	298	258
Scientific publications, pcs**	2,314	2,526	2,647	2,861	2,728

* excluding the ERDF funding for Business Finland projects

** publication types A and C, in accordance with the Ministry of Education and Culture's funding model



Innovation

The goal of the University of Oulu is to commercially utilise research results so that they produce economic benefits for the researcher, the university and the surrounding society. The university considers it an important quality for its staff members that they engage in impactful activities aimed at the utilisation of research results and expertise.

The task of the university's Innovation Centre is to manage internal services related to intellectual property rights (IPR), to coordinate business cooperation in cooperation with the faculties and to assist research teams in developing research-oriented business. The university's innovation centre has seven employees.

The research carried out produces a variety of outputs: inventions, computer programs and materials which may serve as the seed for new business activities. In 2020, 33 invention notices and three copyright notices were filed by the university.

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During the year, the rights for nineteen invention or patents families were transferred to either a research project's business partners or, in four cases, to the licence buyer. An invention notice is an important indicator of the success of research cooperation.

Ten priority patent applications were submitted in the name of the University of Oulu (= the first application for the invention in question). At the end of 2020, the university was the holder of a patent family based on 39 priority patents or applications. Some of these have been licensed, some are being developed further, such as in R2B (Research to Business) projects funded by Business Finland, while for others a route to commercialisation is still being sought.

Over the years, the University of Oulu has patented a total of 110 inventions. A large proportion of the inventions patented by the university have been transferred to companies that have taken on the task of protecting the patent.

In 2020, the university granted a total of €250,000 of Proof-of-Concept (PoC) funding for 15 researcher projects and one student project, with €100,000 of this coming from the City of Oulu Development Fund. The purpose of PoC funding is to support the first implementation of an idea with commercial potential and to demonstrate its feasibility. The funding aims to promote opportunities for complementary research funding that supports utilisation of the idea. PoC funding has made it possible to apply for various Business Finland projects and get the patenting process started.

Commercial utilisation of the research results supports research at the university as additional competitive funding for research. In 2020, the University of Oulu submitted thirteen R2B project applications, six of which received funding. R2B funding is granted for the development of new research-based business. The university agreed with the Riitta and Jorma J. Takasen Foundation on an additional EUR 100,000 per year for R2B projects supported by Business Finland.

Two new research-based companies were established during the year, and the university currently has a small ownership stake in seven spin-out companies. In total, more than 70 research-based companies have taken shape at the University of Oulu.

Each year, the University of Oulu collaborates with approximately 300 companies. Some of this cooperation leads to co-financed projects and some is a matter of research directly ordered by company clients. In 2020, the value of research orders amounted to EUR 3.7 million. The university made the coordination and goal-oriented nature of corporate cooperation more efficient by starting customer management activities in two faculties.

Last year, a total of 52 training events related to innovation activities, business development, business cooperation or information events were organised or run by the Innovation Centre, and six presentations of research commercialisation projects were organised for investors.

Key figures of innovation activities in 2016-2020

Innovation activities	2016	2017	2018	2019	2020
Invention disclosures	44	47	35	61	33
Priority patent applications	9	9	6	6	10
Patent portfolio of the university (number of patent families)	34	30	35	37	39
Technology transfer agreements (new)	10	14	10	16	19
New research-based companies	4	3	3	3	2
Proof of Concept (PoC) projects	9*	11	9	11	16
Business Finland TUTLI funding (new projects)	6	5	5	0	7**

*During a PoC project, the first implementation of a potentially commercially viable idea is carried out and primary data is collected in order to demonstrate feasibility. 6 (2016) / 10 (2017) of the projects were funded using the university's PoC funding and 3 (2016) / 1 (2017) using the funding of the CHT health technology project.

** One of the projects that received a decision in 2020 was part of the autumn 2019 application round (decision received 3 January 2020)



Tellus – spaces and activities as builders of communality

At Tellus, 2020 was the fourth full year of operation. At the core of its activities is cooperation that spans disciplines, cultures and organisations, enabling different kinds of encounters and developing communality. Tellus is a place of work and encounter for students, staff, and both external and internal university stakeholders. Many discussions take place through chance encounters, and this kind of informal interaction plays a major role in innovation activities. During 2020, coronavirus had a significant impact on the number of in-person visits to Tellus, with visitor numbers dropping to just a quarter of the total for 2019 (120,000 for 2019, 30,000 for 2020).

Many events and meetings are held at Tellus. Bookings for these were also significantly affected by coronavirus. The Tellus Stage was reserved around 100 times in 2020 for various events, workshops or meetings. The Business Kitchen Stage, meanwhile, was reserved about 80 times. Almost all of the stage reservations concerned the organisation of an event, and the service point staff have supported the success of the events through marketing, technical support, facility arrangements and photography. There are also many events in the evenings and at weekends. The total number of space reservations for Tellus premises during 2020 stood at less than 1,000, which is about 3,000 less reservations than in 2019. The service point handles approximately 50 contacts per month.

Due to the coronavirus pandemic, operations were transferred online to the new Virtual Tellus. These online events, which had previously been live events, have attracted a significant number of participants. From March to December 2020, there were nearly 5000 visitors to the Virtual Tellus events organised by either Tellus itself or its partners, and it has served the university community as an important facilitator of communality, offering opportunities ranging from spontaneous encounters and recruitment events to research seminars and workshops provided by educational counselling psychologists.

The Tellus activities launched on Kontinkangas campus quickly found an audience, and the space has also served as an important meeting place for students on Kontinkangas campus during the coronavirus pandemic. Activities that support and involve the community have been planned and implemented together with various stakeholders, and the activities have got off to a good start. Kontinkangas Tellus emphasises enabling students to work in groups and supporting stakeholder cooperation through different kinds of meetings, workshops and events. Tellus creates a platform for boosting visibility and active provision in cross-cutting themes such as entrepreneurial culture, business cooperation, internationality and multidisciplinary.

In 2020, Tellus launched two new projects. Previously associated with entrepreneurship education, Entrepreneurial Language Studies received funding through the Erasmus+ network and is now continuing as a collaborative project involving three other European universities. The Self Hack event, which offers career plans for those in the early stages of their studies, was organised virtually and drew participation from 1400 students who were just starting their studies. A spin off idea that came from this was the Generations Lab project, which seeks to bring together young people, working life professionals and experts who have completed their working careers with a view to solving the problems faced by companies. This project also received funding, and the activities will be piloted in spring 2021.

During 2020, the Rapid Research Radicals (R3) concept, that seeks to facilitate multidisciplinary research cooperation, established the monthly, multidisciplinary Brown Bag lunchtime seminar series, which has drawn an average of 50–60 participants each time, and also the biannual Meet the Top Scientist seminars, which spotlights the brightest researchers for each focus institute. The previously-organised Twitter conferences were continued in 2020 as a multidisciplinary experiment that enabled travel-free conferences made available to a very wide audience. Two conferences (Digihealth + 6G and Sustainable Materials) were organised, drawing in a record number of participants. Both reached more than 100,000 Twitter users, and the ‘contributions’ were read more than 100,000 times.

At the end of 2020, Tellus was involved in launching and conceptualising the Pop Up space being opened at the centre of the university. This work will continue in 2021.

Fund-raising

The University of Oulu carries out active fund-raising and maintains good donor relations. Donations are used to support the university’s operations, in line with its strategy, in ways that increase the impact of the university and the vitality and competitiveness of both the region and the whole country.

In 2020, a total of EUR 454,246.29 was donated. Of this, direct allocations to different projects totalled EUR 244,967.29.

At the beginning of the year, two new donation-enabled professorships were established: one for brand management and another for automotive business activities. In spring 2020, an opportunity was offered to support research at the University of Oulu that relates to the coronavirus pandemic. In addition, a significant donation from a foundation made it possible to support Research to Business projects in the coming years. 2020 also saw the introduction of a new CRM system for fund-raising and donor relations.

On 12 June 2020, Sitra and the Ministry of Education and Culture decided on a matched funding arrangement through which universities will receive 2.5 times the total private capital they succeed in raising up to a limit of EUR 67 million. The fund-raising period for this arrangement is 15 June 2020 – 30 June 2022. The University of Oulu launched a capital collection to maximise the fund-raising total and thus the matched funding.

At the end of 2020, the market value of fund-raising investments totalled EUR 66.2 million, which represents a significant share of the University of Oulu’s investment assets.

Fundraising at the University of Oulu Donations 2008–2020

Donor	2008–2014	2015–2017	2018	2019	2020
Public organisations	1,529,343.00	101,752.19	2,000.00	1,460.00	0.00
Foundations, associations	3,106,786.05	5,705,917.75	67,759.67	100.00	130,000.00
Companies	5,614,818.58	1,810,396.00	262,950.00	247,110.00	264,967.29
Financial and insurance institute	568,587.00	995,835.00	300.00	100,150.00	0.00
Private individuals	1,273,985.06	1,105,182.08	77,895.00	171,696.50	59,279.00
Business	28,582.08	1,254.87	0.00	0.00	0.00
Total	12,122,101.77	9,720,337.89	410,904.67	520,516.50	454,466.29
Ministry of Education and Culture match funding	23,097,551.55	11,236,561.00	0.00	0.00	0.00

Facilities

At the end of 2020, the University of Oulu had 158,254 m² of leased premises.

In 2020, the University of Oulu terminated the lease agreement for Liuotinvarasto and for some of the first-floor premises of the Kastelli Research Centre. In total, the terminated lease agreements covered an area of around 226 m².

2020 saw the completion of a total of 2631 m² of renovation and upgrade projects and alterations required for new space arrangements in premises rented by the University of Oulu. These included the renovation and expansion project for the Foodoo 2 restaurant (1464 m²) and the ATK-katu project for teaching facilities and cyclists' changing and shower facilities (1167 m²).

University of Oulu prepared a building strategy which examined the most optimal long-term property strategy.

The construction projects for the Linnanmaa campus of Oulu University of Applied Sciences (Oamk) were completed in spring 2020. Oamk has moved to the Linnanmaa campus, with the move taking place partly in early 2020 but mostly in autumn 2020. Work has continued on the preparation and planning of the joint campus and assessment of shared facilities and services. The library, restaurants, workshop and hybrid laboratory will be shared.

Work has also continued on the comprehensive planning and development of the Linnanmaa campus (Väylä), including tidying up its overall appearance.

At its meeting on 28 April 2020, the Board of Directors of the University of Oulu decided to authorise President Jouko Niinimäki to launch the preparation of a project plan for the central campus of the University of Oulu, which will cover an area of around 30,000 m². As a basis for the project planning, the University of Oulu prepared a building strategy in 2019–2020 which examined the most optimal long-term property strategy for the University of Oulu, including the options of maintaining and renovating the existing building stock, partially demolishing the existing building stock and carrying out new construction in university campuses, and new construction in the immediate vicinity of the centre of the City of Oulu.

For the central campus project, the University of Oulu, Arina Co-operative Society and Kesko applied for and received in autumn 2020 a planning reservation for the Raksila market plot. The planning reservation period runs until 13 December 2021, but the planning reservation report must be ready by 31 March 2021. The planning reservation report will provide the City of Oulu with sufficient information for making decisions on matters such as launching the necessary planning process. The university's project planning will be initiated after the planning reservation report and is estimated to be complete by the end of 2021. The project plan provides the University of Oulu with sufficient information for the investment decision and initiation of the planning process.

In line with the Sustainable Development Goals, the university continued ongoing projects and launched new ones to promote a low-carbon, green campus and to encourage cycling and walking instead of driving. Efforts continued to make space use more efficient, a solar energy project was launched, and infrastructure to support cycling and walking was both constructed and rented out.

On the Linnanmaa campus, the first phase of a 1000 kWp solar electricity project was completed, providing 250 kWp to the campus. This project has received TEM funding.

In connection with the ATK-katu teaching facility project completed in March 2020, a new bicycle park was built south of Linnanmaa and more shower and changing facilities were built.

Together with University Properties of Finland, a demo project was implemented in which sensors were installed on the Linnanmaa campus for the purpose of measuring restaurant queues and also in one parking area for determining how full the car park is.

The university used its own funding to install in 14 Linnanmaa campus teaching spaces sensors for determining the facilities' utilisation rate. The utilisation rate will be compared to the planned utilisation rate obtained through the teaching planning process.



Pictures: Linja Arkkitehdit Oy

Financial position in 2020

The University of Oulu's turnover in 2020 was EUR 250.0 million (EUR 233.0 million in 2019) and the profit for the financial year was EUR 11.4 million (EUR 16.2 million in 2019).

The total return on investment and financial activities was EUR 10.6 million (change in fair value EUR 3.6 million – in accordance with the IFRS 9 standard, which entered into force on 1 January 2018, changes in the fair value of financial instruments have been recorded in profit and loss statements).

The equity ratio of the University of Oulu was 88.7% (89.1% in 2019), meaning that the solvency of the university has remained at an excellent level. The liquidity of the university also remained at a good level.

In accordance with the agreement between the Ministry of Education and Culture and the University of Oulu, the basic funding contained in the income statement for 2020 was EUR 150.4 million (EUR 140.9 million in 2019).

Operating income (income from supplementary funding) was EUR 95.0 million (EUR 89.5 million), equal to 38.0% (38.7%) of total income.

During the financial year, operating expenses amounted to EUR 249.9 million (EUR 240.2 million), of which personnel expenses accounted for EUR 171.2 million, equal to 68.5% of total operating expenses (EUR 157.3 million and 65.5% in 2019). Facility expenses totalled EUR 29.1 million in 2020 (EUR 28.2 million), equal to 11.7% (11.7%) of operating expenses.

The amount of supplementary research funding reported to the Ministry of Education and Culture was EUR 67.2 million (EUR 67.8 million), which corresponds to 26.9% (28.2%) of the university's total expenditure. The figure is calculated using the formula specified by the ministry, and it differs slightly from the figure for grant income given in the income statement. Supplementary funding consists mainly of project funding from the Academy of Finland, Business Finland and the European Union. Research expenditure on international competitive research funding totalled EUR 10.1 million (EUR 9.8 million).

The balance sheet total on 31 December 2020 was EUR 314.7 million (EUR 292.5 million in 2019). The fixed assets on the balance sheet totalled EUR 247.5 million (EUR 234.7 million), while current assets totalled EUR 67.2 million (EUR 57.7 million).

Financial indicators of the University of Oulu

Financial indicators	2016	2017	2018	2019	2020
Change in net sales %	0.64	-1.07	3.45	2.01	7.31
Operating profit %	0.90	1.34	1.04	-3.08	0.04
Change in equity % (development of the university's own funds)	8.91	14.83	0.97	7.24	5.77
Return on investments at fair value	7.7%	7.4%	-5.1%	16.4%	3.8%
Quick ratio	1.91	2.36	2.29	1.96	2.39
Adequacy of cash, days	22	50	58	37	55
Solvency, %	88.3%	89.3%	88.4%	89.1%	88.7%
Net gearing	-7.29	-14.40	-17.28	-10.85	-15.61

*Key figures calculated in accordance with the Code of Financial Administration in Universities, OKM/2/500/2018 (30 November 2020).



Investment activities in 2020

The long-term objective of the University of Oulu's investment activities is to ensure the purposeful, productive and secure investment of assets while taking into account yield targets, acceptable risk levels, ethical responsibility and liquidity requirements. The University of Oulu is a responsible investor, and it requires its asset management partners to sign the UN Principles for Responsible Investment. The UN Principles for Responsible Investment concern the consideration of environmental, social and corporate governance factors in investment activities. The management of the University of Oulu's investment assets was tendered out in spring 2017 and is currently outsourced to three fully authorised asset managers.

According to the investment policy approved by the University Board, the university's investment assets are to be invested over a period of several decades, but at least part of the annual return must be quickly available when the Board decides annually on its allocation. The return from investment activities is mainly allocated to finance strategic recruitments and separate projects approved by the Board of Directors and to increase equity, thus securing the financing of more and/or larger projects in the future.

The university's Investment Committee began its investment strategy work at the beginning of 2019 with the aim of better understanding the history of building the university's portfolios based on how the current structure has been arrived at. One outcome of the strategy work was that the investment committee decided to recommend to the University Board an alternative investment in the investment portfolio.

Investment distribution	Market value, €	Market value change YTD, €	Actual allocation, %	Target, %	Allocation limits, %
FUNDRAISING	66,205,018	536,840	100.0	100.0	-
Equity	34,936,329	-782,852	52.8	55.0	-
Listed equity	34,936,329	-782,852	52.8	45.0	30.0% - 60.0%
- Equity, Finland	683,755	14,335	1.0	-	-
- Equity, Europe	8,735,792	418,929	13.2	12.9	0.0% - 55.0%
- Equity, North America	15,405,956	-1,168,965	23.3	20.3	0.0% - 55.0%
- Equity, Japan	356,032	-8,186	0.5	1.9	0.0% - 55.0%
- Equity, Global	-	-	-	-	-
- Equity, Emerging Markets	9,754,794	-38,965	14.7	10.0	0.0% - 20.0%
Unlisted equity (Private Equity)	-	-	-	10.0	0.0% - 15.0%
Fixed income	31,268,689	1,319,692	47.2	45.0	-
High risk fixed income	11,900,024	-931,801	18.0	10.0	0.0% - 30.0%
- HY	6,728,669	-924,833	10.2	5.5	0.0% - 20.0%
- EMD	5,171,355	-6,968	7.8	4.5	0.0% - 10.0%
Lower risk fixed income	19,368,665	2,251,493	29.3	35.0	2.0% - 100.0%
- Government loans	5,985,036	14,414	9.0	17.9	0.0% - 30.0%
- IG	9,937,475	1,145,798	15.0	12.6	0.0% - 35.0%
- Money market	3,446,154	1,091,281	5.2	4.5	2.0% - 35.0%
Alternative investments	-	-	-	0.0	0.0% - 5.0%

The Investment Committee examined the products of four well-known asset managers, eQ, Mandatum, Nordea and SEB. Based on these proposals, Nordea's PE product was selected as the first proposed PE-labelled product and was approved by the University Board as the university's first PE product at its meeting on 20 November 2019.

The Nordea PE subscription amount was EUR 5 million which was paid out of the University of Oulu's cash reserves. The fund subscription took place in January 2020. Overall, the targeted size of the PE portfolio is approximately 10–15% of the university's investment portfolio, which will mean additional investments of approximately EUR 10 million in the future. These additional investments are intended to be financed by the risk-bearing fixed-income investments in the current portfolios.

Additional investment decisions for the PE portfolio will be made separately, including decisions on the asset managers for the portfolio, and this work was initiated by the university's Investment Committee in Q1_2020. The accounting result of investment and financing activities in 2020 was EUR 10.6 million (2019 EUR 23.6 million).

In 2020, the Investment Committee continued its strategy work on alternative investments, as a result of which the Investment Committee recommended a new alternative investment target to the University Board. eQ PE XII North is a Finnish specialised investment fund that began its investment activities in January 2020. It is what is known as an FOF (fund of funds), and its target size is EUR 200 million.

The Fund invests its assets in buyout funds investing in small and medium-sized enterprises in Northern Europe (Nordic countries, UK, Ireland, and Benelux and DACH countries). The Fund is managed by eQ Fund Management Company Ltd, which is a 100% subsidiary of eQ Assent Management Ltd. Both companies are part of eQ Plc, which is Finland's leading independent asset management and corporate finance company.

The assets managed by eQ Asset Management Ltd amount to EUR 8.7 billion, of which private equity investments account for EUR 4.2 billion (49%) as of 30 September 2020.

The University Board was presented with a university portfolio investment commitment of EUR 8 million for the eQ Private Equity XII North Buyout Fund FOF / Europe. The investment commitment will be gradually 'put to work' over a 5–7 year period, and the eQ investment is funded either from cash assets or from reallocated investment assets. The Board approved this proposal.

From the investor's point of view, 2020 ended very much as it began, meaning that many stock and interest markets were at an all-time high, and risk-taking in the market for the year as a whole. This may be surprising to some extent, given the arrival of the worst global pandemic for a century, extensive lockdown measures, a collapse of between 20 and 50 percent in stock indices (depending on the market), negative economic growth and a record increase in unemployment. The market recovered rapidly from the collapse, however, due to the rapid stimulus measures of central banks and states.

2020 ended very much as it began, meaning that many stock and interest markets were at an all-time high, and risk-taking in the market for the year as a whole.

During 2020, the university's investments yielded 3.8%, while the benchmark index yielded 6.1%. The most important reasons for remaining below the benchmark index were that the index reduced its weighting of equity investments by around 10% over nearly the whole year and increased its weighting of short-term interest rates. This was due to the fact that cash assets were included in this reporting, and the increase in cash assets at the end of 2020 was particularly significant.

The risk of the university portfolio (measured as 12-month volatility) was lower than the benchmark index (12.1% vs. 13.3%) and the risk level of the portfolio has decreased compared to the beginning of the previous year due to the decrease in the proportion of share capital.

The listed share investments were successful in 2020 and exceeded their benchmark index by about 1.5%. Unlisted share investments saw a slight drop in value over the course of the year.

For fixed-income investments, on the other hand, yields on both risky and low-risk investments remained below their indexes.

At the end of 2020, the market value of the University of Oulu's portfolio was EUR 162.1 million (excluding cash reserves and alternative investments); the corresponding value at the end of 2019 was EUR 154 million.

In 2020, the University of Oulu's Investment Committee comprised Maaria Eriksson (KEVA), Ira van Gilse van der Pals (Central Administration of the Finnish Lutheran Church), Pirjo Kytösalmi (Kaleva) and Pekka Riuttanen (University of Oulu). The Investment Committee began its work in autumn 2013.

Personnel

In 2020, the average number of people working at the University of Oulu was 3303 (2019: 3080). The total number of university personnel at the end of 2020 was 3386 (2019: 3135). The total number of person-years for 2020 was 2977 (2019: 2744 person-years, increase of 8.51%). In 2020, the average number of personnel increased by 223 people, by the last day of the year the number had increased by 251 people, and the total person-years increased by 233. Teaching given as hourly teaching (46.24 person-years) and work performed by hour-based employees (11.47 person-years) is also included in the total person-years (2019: hourly teaching 35.81 person-years and hour-based employees 10.83 person-years).

TABLE 1.
Number of employees in persons and person-years 2016–2020

Employees	2016	2017	2018	2019	2020
Number of employees (average)	2,906	2,844	2,937	3,080	3,303
Number of employees on 31 December	2,847	2,854	3,019	3,135	3,386
Number of employees (person-years)	2,640	2,545	2,610	2,744	2,977
- teaching and research staff (person-years)	1,637	1,591	1,621	1,688	1,785
- other staff (person-years)	898	844	879	941	1,066
- teacher training schools (person-years)	105	109	111	115	126
Person-years excluding part-time hourly instruction	2,566	2,492	2,565	2,708	2,931

From 2013 to 2017, the basis for the calculation was the number of part-time teaching hours given divided by 448, while from 2017 onwards it was divided by 455.

(Source: before 2017, Sisu for average number of employees and Personec F for person-years and number of personnel on 31 December; from 2017, SAP for average number and 31 December total, Personec F and Mepco for person-years 2017, Mepco for average and number from 2020).

The Board of Directors of the University of Oulu decided on 30 May 2018 that the University of Oulu will buy a majority share in Oulu University of Applied Science Ltd (Oamk). In December 2019, the boards of Oulu University of Applied Sciences and the University of Oulu made a decision on the transfer of business concerning internal service activities. The decision was preceded by employer/employee negotiations in both organisations. In the transfer of the business activities, the personnel providing Oamk's services were transferred to the university, and the joint service organisation that was taking shape began to provide services for both organisations. These internal services include ICT, education, HR, financial and library services. As of 1 February 2020, the new joint service organisation had 479 university employees, with 137 Oamk employees transferring from Oamk to the university. The Administrative Director, Human Resources Director, Service Director and Chief Financial Officer are responsible for the various functions. Both organisations kept some of their own services that support teaching and research, as well as development and communications services that support the institutions' own strategies. The aim of the service planning has been to organise each service function in an operational, financial and efficient manner so that the needs of both higher education institutions are taken into account. A new employment agreement was concluded for the transferring employees, but the employees were transferred to the new employer as old employees. They will come under the general collective agreement for universities as of 1 April 2020. Underlying the decisions made were Oamk's relocation to the Linnanmaa campus and the university's new position as the majority owner of Oulu University of Applied Sciences Ltd as of the end of August 2018. The majority of Oamk's teaching and other activities had moved to Linnanmaa by August 2020.

Among university personnel, the percentage of fixed-term employees has decreased slightly compared to the previous year, standing at 58.2% of all personnel (2019: 60.3%). The proportion of permanent roles has thus increased. In the doctoral and postdoctoral stage, research staff are always hired on fixed-term contracts.

TABLE 2. Share of fixed-term employees, % by staff group 2017–2020

Staff group	2017 F-T total	2017 Grand total	2017 F-T share %	2018 F-T total	2018 Grand total	2018 F-T share %	2019 F-T total	2019 Grand total	2019 F-T share %	2020 F-T total	2020 Grand total	2020 F-T share %
Not within YPJ	78	85	91.8%	69	75	92.0%	65	71	91.5%	66	73	90.4%
-men	45	-	-	39	-	-	40	-	-	35	-	-
-women	33	-	-	30	-	-	25	-	-	31	-	-
Teaching staff at training school	19	105	18.1%	16	104	15.4%	19	107	17.8%	19	108	17.6%
-men	8	-	-	5	-	-	7	-	-	5	-	-
-women	11	-	-	11	-	-	12	-	-	14	-	-
Other staff	191	856	22.3%	239	902	26.5%	300	971	30.9%	312	1125	27.7%
-men	97	-	-	109	-	-	122	-	-	122	-	-
-women	94	-	-	130	-	-	178	-	-	190	-	-
Teaching and research	1,318	1,740	75.7%	1,386	1,847	75.0%	1,412	1,889	74.7%	1,471	1,975	74.5%
-men	780	-	-	819	-	-	835	-	-	847	-	-
-women	538	-	-	567	-	-	577	-	-	624	-	-
Hour-based pay	66	66	100%	88	88	100%	94	94	100%	102	102	100%
-men	32	-	-	40	-	-	37	-	-	38	-	-
-women	34	-	-	48	-	-	57	-	-	64	-	-
Employer tasks		2	0.0%		3	0.0%		3	0.0%		3	0.0%
Grand total	1,672	2,854	58.6%	1,798	3,019	59.6%	1,890	3,135	60.3%	1,970	3,386	58.2%
-men	962	-	-	1,012	-	-	1,041	-	-	1,047	-	-
-women	710	-	-	786	-	-	849	-	-	923	-	-

(Source: 2017–2019 SAP HR, 2020 Mepco)

68% of the university staff (2019: 78%) work in the faculties. Teaching and research staff accounted for 58.32% of all personnel (2019: 60.26). The aim has been to invest in increasing the vacancies for teaching and research staff and, in particular, the post-doc stage of researchers' careers.

The units' personnel planning has aimed at developing the researcher career structure (tenure track, personal career path), balancing the number of tasks in different career stages, and internationalising the research staff. This has been made possible by directing strategic funding towards research.

Recruitment activity remained high in 2020, and the number of applicants rose again compared to previous years. The activities focused particularly on providing HR support to preparatory groups to streamline processes and on developing a positive applicant experience.

A total of 265 external job advertisements were posted by the university via the Saima recruitment system (268 in 2019 and 328 in 2018). As some of the advertisements included several roles, there were in total around 300 vacancies (325 in 2019). 12 of the advertisements concerned professors (incl. Full Professor and tenure track positions) and 9 concerned tenure track positions (34 in 2019 and 15 in 2018). In addition to appearing in the relevant academic journals, the job advertisement have also been posted elsewhere, including the Academic Positions, Euraxess and LinkedIn portals. Most of the applications (65%) concerned teaching and research staff positions. The number of applications received was 8690 (2019: 7840, 2018: 7484).

TABLE 3. Number of employees by faculty, and change compared to the previous year 2019–2020

Employees by faculty	31.12.2019 Total	31.12. 2020 Men	31.12. 2020 Women	Change in number 19-20	Change % 19-20	Share % 2020
Faculty of Humanities	166	62	114	10	6%	7%
Faculty of Education	303	83	220	0	0%	13%
Faculty of Science	241	144	98	1	0%	6%
Faculty of Medicine	522	209	362	49	9%	21%
Faculty of Biochemistry and Molecular Medicine	122	58	71	7	6%	4%
Oulu Business School	95	50	57	12	13%	3%
Faculty of Technology	413	306	138	31	8%	8%
Faculty of Information Technology and Electrical Engineering	573	431	130	-12	-2%	7%
Faculties in total	2,435	1,343	1,190	98	4%	68%
BCO infra	28	11	18	1	4%	1%
Biodiversity Unit	14	8	4	-2	-14%	0%
Laboratory Animal Centre	16	5	10	-1	-6%	1%
Centre for Material Analysis *	16	13	4	1	6%	0%
Oulanka Research Station	6	4	3	1	17%	0%
BCO Multidisciplinary Research Centre	2	0	2	0	0%	0%
Eudaimonia	1	1	0	0	0%	0%
Infotech	1	0	1	0	0%	0%
Kvantum institute	0	1	2	3	300%	0%
Thule institute	7	0	4	-3	-43%	0%
Kajaanin University Consortium	42	18	21	-3	-7%	1%
Kerttu Saalasti Institute	41	25	17	1	2%	1%
Sodankylä Geophysical Observatory	29	25	11	7	24%	1%
UniOGS	1	0	1	0	0%	0%
University Innovation Centre **	8	4	4	0	0%	0%
Infrastructure, Multidisciplinary Research Centres and Separate Department in Total	212	115	102	5	2%	6%
Rector's Office	5	2	1	-2	-40%	0%
Human Resources Services	26	5	30	9	35%	2%
Academic Affairs	148	14	185	51	34%	11%
Law and Contract Services	31	26	12	7	23%	1%
Oulu University Library	54	15	56	17	31%	3%
Common Services			1	1	100%	0%
Strategy and Science (incl. Tellus)	27	12	13	-2	-7%	1%
Financial Services	49	11	57	19	39%	3%
ICT-services	72	79	17	24	33%	1%
Research and Project Services	9		14	5	56%	1%
Extension School	42	12	36	6	14%	2%
Communication, Marketing and Societal Relationship	25	11	27	13	52%	2%
SERVICES IN TOTAL	488	185	448	145	30%	26%
TOTAL	3,135	1,645	1,741	251	8%	100

*) Center of Microscopy and Nanotechnology renamed to Centre for Material Analysis in 2019

**) Innovation and Entrepreneurship Services / Innovation Centre renamed to University Innovation Center UIC in 2019

Source: 2019 SAP HR and TTS, 2020 Mepco.
Includes hourly workers, does not include the same person twice or part-time hourly teachers.
(The structure of units other than faculties has changed on 1.6.2020)

Most of the university's staff work full-time. In 2020, there were 529 people in part-time employment (2019: 405), equal to 16% of all personnel (2019: 13%). When broken down by personnel group, most of these worked as auxiliary teaching and research staff (183), doctoral candidates (51), postdoctoral researchers (49) and administration/office staff (49). Part-time work is also emphasised among the teaching and research staff of the Faculty of Medicine (130).

TABLE 4. Number of full-time and part-time employees in 2017–2020

Working time	2017 Male	2017 Female	2017 Total	2018 Male	2018 Female	2018 Total	2019 Male	2019 Female	2019 Total	2020 Male	2020 Female	2020 Total
Full-time	1,307	1,199	2,506	1,331	1,295	2,626	1,369	1,361	2,730	1,396	1,461	2,857
Part-time	189	159	348	229	164	393	223	182	405	249	280	529
Total	1,496	1,358	2,854	1,560	1,459	3,019	1,592	1,543	3,135	1,645	1,741	3,386

(Source: 2017–2019 SAP HR, 2020 Mepco)

At the turn of the year, the total number of international personnel was 658, equal to 19.4% of all personnel (situation on 31 December 2020). The number of international personnel has continued to increase and the relative share has remained stable, as at the end of 2019 the number of international personnel was 616, equal to 19.5% of all personnel. The share of international personnel in teaching and research staff has continued to increase slightly, reaching 30%.

TABLE 5. Number of international personnel by personnel group 2017–2020

Year	Teaching Staff	Other Staff	Total number of international employees
2020	615	43	658
2019	568	48	616
2018	561	28	589
2017	491	18	509

By country, the largest number of international employees were from Iran (75 persons), India (63 persons), China (51 persons), Pakistan (35 persons) and Russia (32 persons). In total, 80 nationalities are represented in the staff of the University of Oulu.

The coronavirus pandemic restrictions largely halted international researcher visits to the University of Oulu from March 2020 onwards. In 2020, researchers at the University of Oulu made a total of only 27 official trips that lasted more than one month (77 in 2019), and most of these had already started in January-February 2020. In the case of researcher visits that had already begun, about a half of these returned home before the planned time.

A total of 51.4% of university staff were women (2019: 49.2%). The average age of the personnel increased slightly to 42.5 (2019: 42.4).

TABLE 6. Average age of personnel

Personnel group	2017 M	2017 F	2017 Total	2018 M	2018 F	2018 Total	2019 M	2019 F	2019 Total	2020 M	2020 F	2020 Total
Not within YPJ	37.5	37.6	37.6	37.5	35.3	36.5	38.4	38.0	38.2	40.3	36.7	38.6
Training schools	49.2	48.5	48.7	49.9	47.7	48.5	48.9	47.1	47.7	50.6	48.4	49.1
Other staff	48.0	49.3	48.8	48.4	48.1	48.2	47.6	46.9	47.1	47.4	47.0	47.1
Teaching and research	40.5	40.6	40.5	40.1	40.0	40.1	40.1	40.6	40.3	40.0	40.3	40.1
Hour-based pay	28.8	29.7	29.2	31.6	34.1	33.0	30.8	32.0	31.5	30.4	31.7	31.2
Employer tasks	53.0	52.0	52.5	51.5	53.0	52.0	52.5	54.0	53.0	53.5	55.0	54.0
Grand total	42.1	43.9	43.0	42.0	43.1	42.5	41.8	43.0	42.4	41.9	43.0	42.5

(Source 2017–2019 SAP HR, 2020 Mepco)

TABLE 7. Personnel age structure and age group percentages

Age-group	2017 M	2017 F	2017 Total	2017 % share	2018 M	2018 F	2018 Total	2018 % share	2019 M	2019 F	2019 Total	2019 % share	2020 M	2020 F	2020 Total	2020 % share
19-24	47	33	80	2.8%	59	48	107	4%	65	49	114	3.6%	51	48	99	2.9%
25-29	210	117	327	11.5%	236	149	385	13%	254	176	430	13.7%	257	213	470	13.9%
30-34	247	177	424	14.9%	247	194	441	15%	246	195	441	14.1%	271	205	476	14.1%
35-39	210	190	400	14.0%	209	209	418	14%	211	214	425	13.6%	217	243	460	13.6%
40-44	160	207	367	12.9%	177	231	408	14%	163	251	414	13.2%	187	282	469	13.9%
45-49	151	156	307	10.8%	139	158	297	10%	149	178	327	10.4%	163	208	371	11.0%
50-54	175	163	338	11.8%	188	160	348	12%	195	156	351	11.2%	183	171	354	10.5%
55-59	146	187	333	11.7%	132	186	318	11%	136	182	318	10.1%	152	207	359	10.6%
60-64	129	116	245	8.6%	144	109	253	8%	146	131	277	8.8%	132	148	280	8.3%
65-	21	12	33	1.2%	29	15	44	1%	27	11	38	1.2%	32	16	48	1.4%
Total	1,496	1,358	2,854	100%	1,560	1,459	3,019	100%	1,592	1,543	3,135	100%	1,645	1,741	3,386	100%

(Source 2017–2019 SAP HR, 2020 Mepco)

During the current agreement period of the collective labour agreement for universities, salaries were increased by 1.1% with a general increase on 1 August 2020 and by 0.5% with a local instalment on 1 December 2020. The size of the local instalment on 1 December 2020 was calculated from the salary sum for September 2020. The calculation was made separately for the salaries of teaching and research staff, other staff and the teaching training school.

The local instalment 1.12.2020 was allocated as follows (the amounts are gross wage and salary expenses at the monthly level not including employer's side costs, part-time work has been taken into account):

In terms of teaching and research staff, 1428 euros were spent on the job-specific pay component, with the recipients including one person at OV01 difficulty level, three persons at OV02 and two persons at OV03. EUR 14,086 was used for the complexity bonus, with the number of recipients being 37. EUR 17,465 was used for the personal wage component, with the number of recipients being 126.

For the rest of the personnel, EUR 383 was spent on the job-specific salary component, with the recipients including one person at MV05 difficulty level, two persons at MV06, one person at MV07 and one person at MV08. EUR 5620 was used for the complexity bonus, with the number of recipients being 31. EUR 11,912 was used for the personal wage component, with the number of recipients being 99.

EUR 721 was used for the complexity bonus at the teacher training school, with the number of recipients being 7. EUR 1908 was used for the personal wage component, with the number of recipients being 14.

Euro-based salaries also included general increases equal to the local instalment.

In spring 2020, development discussions were held with all employees.

Since the beginning of 2019, the University of Oulu has made use of guidelines on the immediate rewarding of personnel. In keeping with its name, the proposed reward is submitted by the supervisor immediately after the work achievement or event concerned, and the supervisor's supervisor approves the reward in the electronic system. The bonus is then paid to the employee as part of their following salary payment. According to the guidelines, the size of the bonus is EUR 400–2000. In 2020, 167 immediate bonuses were approved, amounting to a total of EUR 176,544. The immediate bonuses were distributed among the personnel groups as follows: teaching and research staff 42.4%, other personnel 44.8%, non-YPJ 4.0% and teacher training school staff 8.8%.

The performance bonus programme was introduced on 1 January 2019. The new performance bonus programme includes the rector and vice rectors, the deans and the deans of education, heads of research units and separate units, as well as heads of service activities. The performance bonus programme complements the existing pay system. The performance bonus programme is primarily a government tool of the University of Oulu used for outlining the activities of the university and faculty management. The purpose of the performance bonus programme is to help strengthen the commitment of persons in key roles to the university, achieve the university's strategic objectives and reward good performance in this regard.

Bonuses awarded under the performance bonus programme were paid for the first time in June 2020. They were paid to a total of 90 people based on their performance in 2019. The sum total of performance-based bonuses paid was EUR 531,711, which corresponds to 0.37% of the salary costs of the University of Oulu. The performance-based bonuses paid were distributed among the personnel groups as follows: teaching and research staff 72.2%, other personnel 5.8%, non-YPJ 22.0%.

The representation of women in academic management at the University of Oulu is fairly good, equalling 50% of rectors, 56% of deans and vice deans and 11% of other leaders, excluding administrative personnel.

TABLE 8. Academic management at the University of Oulu by gender for 2017–2020

Manager	2017 F	2017 M	2017 Total	2017 F%	2018 F	2018 M	2018 Total	2018 F%	2019 F	2019 M	2019 Total	2019 F%	2020 F	2020 M	2020 Total	2020 F%
Rector + vice rectors	2	2	4	50%	2	2	4	50%	2	2	4	50%	2	2	4	50%
Deans + vice deans	8	12	20	40%	8	8	16	50%	8	8	16	50%	9	7	16	56%
Managers + assistant managers, excluding administration	2	7	9	22%	1	8	9	11%	0	9	9	0%	1	8	9	11%

The development of well-being at work at the university level and in the different units has continued in 2020 on the basis of a work ability management action plan that is updated each year. In autumn 2019, a joint well-being survey was carried out in all universities, and this will continue to be used every other year. The processing of the results began at the end of 2019 for the results of the university as a whole, and the processing of the survey and response measures continued in spring 2020. The work on areas of development targets was furthered through measures such as well-being workshops based on a topic selected by the unit. In particular, the workshops developed communality and readiness for change in work communities as well as the means for self-management, time management, and tools for work-life balance and recovery from work.

In addition, a pulse survey was carried out for the personnel in November 2020 to investigate the development of well-being at the faculty, service unit and sub-unit levels in relation to the areas for development derived from the 2019 well-being survey. Questions common to all faculties included questions about the work-life balance, the NPS (recommendation question) and an open question about the development of well-being over the course of the year. The pulse survey showed that the work-life balance had been challenging for employees (3.36), while the corresponding figure from the 2019 well-being survey was as high as 3.85, and had varied in the spring pulse surveys between 3.68 and 3.78. 1,670 people responded to the autumn pulse survey.

TABLE 9. Average results for the subsections of the well-being survey for the reference years 2013, 2015, 2017 and 2019

Well-being survey	2013	2015	2017	2019
Social interaction in our unit	3.32	3.56	3.75	3.85
Content of own work and competence	3.66	3.76	3.84	3.97
Working conditions	3.34	3.43	3.57	3.68
Working with immediate supervisors	3.65	3.83	3.98	4.09
Strategic leadership, university	2.60	2.76	-	3.09
Strategic leadership, faculty	3.33	3.51	-	-
MEAN	3.32	3.48	3.79	3.74

TABLE 10. Results of the University of Oulu pulse survey for spring 2020

Question	Week 4	Week 1	2019
1. I have enough time to cope with my job during working hours.	3.66	3.70	3.45
2. I can balance my work and the rest of my life.	3.78	3.71	3.85
3. My supervisor pays attention to the workload and resilience of my work.	3.48	3.75	3.81
4. Our meeting policies serve the achievement of our unit's objectives.	3.72	3.88	3.68
5. Teleworking has not impaired the performance of my duties.	3.97	3.75	-
6. Telework has had a positive effect on my well-being at work.	3.69	3.30	-
7. We have succeeded in ensuring that a sense of community is maintained in our own work community despite teleworking.	3.57	3.65	-

In spring 2020, the Academy of Brain FORWARD online training package was purchased and made available to all personnel in the Moodle learning environment. The online training package provides support for mental coping and success in remote work. In autumn 2020, preparations began for the introduction of the recreational exercise application. The aim is that the application will remind you to take breaks and guide you in getting enough movement during the working day. The University of Oulu also extended the employee's statutory accident insurance in autumn 2020 so that it now also covers remote work.

The 2019 tendering process for occupational health care was part of the reform of work ability management, the purpose of which is to boost the early identification of work ability risks and active cooperation between occupational health care, supervisors, occupational health care and pension insurance companies. Mehiläinen Oy joined as an occupational health care partner on 1 July 2019, and 2020 was the first full year of operation for the this new partnership. The occupational health care service provider for the Sodankylä Geophysical Observatory is Terveystalo Oy. Key measures related to the objectives of occupational health cooperation included the introduction and implementation of a supervisor compass and work ability compass, the planning and implementation of a workplace survey process that takes into account the risk assessment reform, and active cooperation with occupational health care, occupational pension insurer, supervisors and human resources services. The costs of occupational health care decreased significantly year-on-year. The main reason for this was the emphasis on preventive occupational health care.

As part of the objectives of occupational health cooperation, the University of Oulu participates in the TYKYTUO project, which involves broad development and increased efficiency of cooperation between primary health care, special health care and occupational health care and also between the workplace and occupational health care. The University of Oulu's part in this is focused on the sub-project of the Finnish Institute of Occupational Health, which seeks to develop cooperation between the workplace and occupational health care. The cooperation agreement was signed at the end of 2020, and the development project will run until 31 August 2022.

The priorities for occupational safety operations in 2020 were 1) implementation of the chemical system and development of general laboratory safety, 2) management of occupational accidents and near-miss incidents, and 3) increasing awareness of occupational safety. The most important occupational safety measure in 2020 was the implementation of the Ecobio Manager chemical and risk assessment system as part of workplace surveys. The reformed chemical working group also consolidated its activities. In 2020, 31 accidents involving personnel took place, which is 35 less than in the previous year (21 further reports from 2020 still being processed).

TABLE 11: University of Oulu well-being indicators for 2017–2020

Indicator	2017	2018	2019	2020
Sick leave days (calendar days), of which	14 189 calendar days	13 203 calendar days	15 497 calendar days	17 732 calendar days
- Self-announcements	-	-	-	991 (from June 1)
- Accidents at work	343	329	360	370
Sick leave days (calendar days / person (ka))	4,1	4,5	5,0	5,4
Sick leave (%)	1,60%	1,50%	1,70%	1,70%
Sick leave costs (days of absence in working days * EK €350)	3,5 million	3,8 million	4,0 million	4,6 million
Health (%)	75%	68%	66%	60%
Accidents at the workplace	51	39	36	14
Accidents on work trips	42	41	30	17
Accidents total	93	80	66	31
Pension contribution category	Varma 4	Varma 4	Varma 7	Varma 7
Occupational health care costs € (preliminary, not including EA supplies and training)	1 131 759 €	1 294 250 €	1 111 376 €	716 989 €
Preventive occupational health care (KL 1) as a percentage of total occupational health care expenditure	KL 1 33,4%	KL 1 38,6%	KL 1 48,2%	KL 1 66,0%
Medical care (KL 2) as a percentage of total occupational health care expenditure	KL 2 66,6%	KL 2 61,4%	KL 2 51,8%	KL 2 34,0%
Occupational health care costs €/person-year	445 €/p-y	496 €/p-y	405 €/p-y	241 €/p-y (preliminary)
Work ability negotiations	40	58	54	71

(Source: SAP HR for 2017–2019, Mepco for 2020: sick leave days, sick leave % and health %, OP reports: number of accidents, Varma: pension payment category, Kela application: occupational health care costs, cost ratio and costs €/person-year, YritysMehiläinen and TerveystaloExtranet: work ability negotiations)

The Equality and Non-Discrimination Committee, which commenced its work on 1 January 2019, prepared an equality and non-discrimination plan for 2019. This was approved on 20 November 2019 and the committee then implemented both this plan and the measures of the previous equality and non-discrimination plan, ensuring it was applied at the unit-level. In 2020, the Committee handled such issues as unisex toilet facilities, external websites on equality and non-discrimination, pay surveys, cooperation with the Ethics Working Group, the equality days on 7–8 October 2020 in Helsinki, the 'family-friendly actions' challenge, the Redesigning Equality and Scientific Excellence Together (RE-SET) project, options for participating in the European University of Post-Industrial Cities network and participation in the Accessibility Steering Group and the inclusion of equality issues, while also updating the equality and nondiscrimination information leaflet and awarding the equality and nondiscrimination prize. Equality Day, due to be held on 19 March was postponed to next year due to the coronavirus situation. Due to the pandemic, the facilities' accessibility survey and unisex toilets have not been promoted in 2020, nor has the 'Bring your Child to Work' event taken place.

Competence development

The corona pandemic, which began in the spring, had a number of impacts on the number and quality of education events in 2020. Travel to external trainings, conferences and seminars remained limited due to the travel restrictions in force, and many training events and planned events due to take place face-to-face had to be postponed or cancelled. On the other hand, a lot of training was held during the year either remotely or as different online implementations. The number of training days qualifying for the three-day training allowance decreased as expected in 2020. Centrally offered personnel training and other training events qualifying for the three-day training allowance (e.g. personnel's further studies, TESO days at the normal school, conference and seminar trips) amounted to just 3123 training days, 1466 days less than in 2019. A total of 896 people had received training for at least three days during the year (in 2019, the total was 1441). A total of 107 people had received two days of training (157 in 2019) and 221 had received one day (222 in 2019). During the year, approximately 130,000 hours (88% of all hours) of personnel training hours were allocated to teaching and research personnel and around 11,880 hours (8% of all hours) to other personnel.

In accordance with the university's personnel programme, a description was compiled of the overall support for management and supervisory work at the University of Oulu. A number of programmes and events have been launched over the past two years, and their implementation has been pursued in a goal-oriented manner, but efforts have now been made to allocate these separate programmes a clear place within the university's activities as a whole. The UniLead programme, which involves reviewing one's own supervisory work, was implemented for the fourth time in 2020, with 18 supervisors participating. The Coaching Supervisor training, which is open to all supervisors, was tendered out in spring 2020, and its first implementation with the new partner in autumn 2020 received excellent feedback from the participants (16 people). The next implementation of the programme will be in spring 2021. The second implementation of the Science Leadership programme for advanced post-doctoral researchers (Class of '19, 16 participants) was completed in 2020. The application process for the next implementation (Class of '21) was opened in autumn 2020. 35 researchers applied for the programme, and 20 were selected. The project will begin at the beginning of 2021. During the year, systematic development work was launched in order to bring into the university's Moodle learning environment continuously available materials that familiarise people with and prepare them for supervisory work. The supervisor forums were held remotely twice a year, and they focused on current topics from the perspective of supervisory work. Due to the coronavirus pandemic, the professorship forum due to be held in autumn 2020 could not be implemented as planned as a two-day event. The aim is to arrange a replacement programme for spring 2021. In addition, individual coaching is available for Deans and Education Deans and, from autumn 2020 onwards, for all other supervisors as needed.

The key themes of personnel training offered centrally in 2020 continued to cover training on handling the Moodle learning environment and on teaching tasks (especially in relation to digitalisation). The rapid transition to extensive remote work resulting from the coronavirus pandemic increased the need for and supply of training in the use of remote tools (e.g. Zoom and Teams). To support remote work, a FORWARD online training package was also purchased from Academy of Brain. Its contents are designed to support mental coping and success in remote work. In spring 2020, Wistec Oy, a learning environment containing ICT training, was acquired for staff use. In addition, Wistec's remote ICT training was offered free of charge to all personnel. During the year, the procurement of a new personnel training system was tendered out. The selected supplier was eTime and the new system, called Osku, was introduced in December 2020. The new system will make easier both the management and reporting of training and events.



Risk management

The Board of the University of Oulu formulates the risk management principles and requires that the university's functions are organised in compliance with them. This applies to all activities of the University of Oulu and all those working at the university.

The Board reviews the risk management principles once a year in connection with assessing the status of the most significant risks and the coverage of the risk management actions.

Internal control refers to all those procedures and practices of the university through which the Board and the management can obtain reasonable certainty of attaining objectives, the productivity of activities, the production of a true and fair view of finances and operations as well as the legality of the activities.

Risk management is part of internal control. Risk management refers to the systematic and anticipatory identification, analysis and management of the threats and opportunities associated with activities. The purpose of risk management is to support management in its entirety, which can be split into four areas: planning, decision-making, implementation and control. In the area of risk management, the University of Oulu is currently pursuing a project aimed at harmonising risk management practices and strengthening the role of risk management in the university.

The university has an internal auditor whose tasks include assessing the effectiveness and efficiency of the university's risk management. This internal audit can also provide expert support to the organisation's different levels in their risk management work. The internal audit guidelines of the University of Oulu define the internal audit procedures and status within the organisation.

The university takes into account and prepares for key risks threatening the continuity of operations, resourcing, knowledge capital, property and infrastructure as well as the personnel and their safety in compliance with the risk management policy adopted by the Board.

Identifying, assessing and preparing for risks are part of the university's management system and operations management, quality management, and annual planning of the profit centres.

The university's strategic risks relate to the university not being successful in the competition between universities and globally with the strategic choices made. Risks also relate to strategic objectives, the operating environment, and legislation. The reputation of the University of Oulu, the profile selected in the strategy and the operating culture work together to determine the attractiveness of the university.

The university's key operational risks concern the results measured by the Ministry of Education and Culture's funding model, such as success in accessing competitive research funding and in publication points. Success in the implementation of national objectives concerning profiling and structural development is also an additional prerequisite for the favourable development of central government basic funding within the reformed funding model.

Financial risks apply to fund-raising, investment activities, investments, processing of revenue and expenditure, financial transactions, as well as material and immaterial property. Financial risks can manifest as liquidity risks, interest risks, credit risks or currency risks.

Investment risks and financial risks relate to the management of the university's investment assets and the related counterparty risks. The University Board has approved the university's investment policy, and financial management agreements made oblige the selected asset managers to comply with this policy. Counterparty risk is reduced by selecting three different asset managers to manage the investments.

Data risks include information and document security risks, IT security risks as well as other risks related to information security, data systems and data protection.

Risk of damage can apply to property, the environment, facility safety or the safety of students and personnel. Risk of damage may manifest as health and safety risks, fires, other accidents or damages, or natural disasters.

Human risks can apply to the personnel's professional competence, the attractiveness and internationally high standard of teaching, the internationally high standard of research, reform and profiling in areas of strength, or the health, safety and wellbeing of personnel and students.

From the perspective of risk management, the most significant change was COVID-19, which rapidly changed the operating environment at many levels and also significantly shifted risk management priorities. The University reacted immediately to the pandemic and an Operations Team and a Preparedness Team were established. These teams regularly monitored the risks and safeguarded the continuity of operations at minimal risk levels.

The University Board and the Rector as well as the Vice Rectors hold key responsibility for monitoring the university's units to ensure they have kept to their set objectives. Monitoring and control must ensure that possible risk factors are detected and responded to in time.

Monitoring must also take into consideration future foresight. Monitoring must focus on economically and operationally important entities and risk-prone activities.

Board of Directors and auditors

During the year under review, the Board of Directors of the University of Oulu was chaired by Sakari Kallo, and the board members were Liisa Jaakonsaari (Vice-Chairman), Juhani Damski, Anni Huhtala, Anna Rotkirch, Kalervo Väänänen, Marko Huttula, Petri Lehenkari, Kimmo Kontio, Jukka Hiltunen, Joni Ollikainen and Timo Veijola.

The auditors were the Authorised Public Accountants BDO Audiator Oy, with Tiina Lind KHT, JHT and Ulla-Maija Tuomela KHT acting as principal auditors.

Assessment of future developments

The basic funding available through the new funding model that entered into force in 2021 and promotes the reformed higher education policy objectives of the Ministry of Education and Culture will remain broadly unchanged in relation to previous years. In the strategic funding section of the funding model, we succeeded well in the negotiations for the 2021–2024 agreement period, but the implementation of areas such as the university's internationalisation programme and provision of additional study places is a challenge for the university and its staff.

In order to promote the growth and well-being of wider society, the adequacy of skilled labour should be ensured through measures such as attracting foreign students and helping them to integrate permanently into the Finnish labour market.

Information on the efficacy and availability of COVID-19 vaccines suggests that by autumn 2021 at the latest, a transition from pandemic period to the new normal period can be carried out making use of the capabilities obtained through the digital leap that has been accomplished and the new working methods that have been developed. The digitalisation and multi-localisation of education and the increasing importance of continuous learning are changing the field of university education. Digitalisation and increased remote work appear to be bringing permanent changes to space requirements, and these will be taken into account in the planning of the city centre campus.

The EUR 4.9 million balance sheet use budgeted by the University of Oulu for 2021 enables the immediate strengthening of the university's operations. New recruitments will focus on researchers at advanced stages of their careers who are positioned in the strategically important areas selected by the faculties. Through such recruitments, we will attain the highest level nationally in more and more research areas, while also achieving an international high level of quality. New recruitments also increase education resources and promote education quality. Strong resolve, high scientific quality and international activity promote our recognition as a university of science.

The university will continue to develop its operations in specific, strategic, inter-sectoral development programmes coordinated by the Strategy and Science Policy Unit. Special attention will be paid to internal communications for strategic programmes, and staff will be involved in the programmes so that the top expertise of the entire organisation can be put to use. The strategic programmes are (1) a skilled, communicative and healthy community; (2) active partnership and dialogue; (3) high-level, impactful research; (4) high-quality education for various life situations; and (5) an inspiring working and learning environment and campus experience.

Proposal of the University Board concerning the result of the financial period

The Board proposes that the profit for the financial year (EUR 11,368,166.96) be transferred to the balance sheet profit account.

At its meeting on 12 February 2013, the Board of Directors decided to set up an unrestricted fund to which the proceeds of unallocated donations will be transferred after the final accounts for each year have been confirmed. For 2020, there were no such unallocated donations to be transferred. The transfer of funds to the unrestricted fund takes the form of an intra-balance sheet transfer after the approval of the financial statements. The amount transferred to the restricted fund in 2020 was EUR 198,385.32.

UNIVERSITY OF OULU FINANCIAL STATEMENTS 2020 INCOME STATEMENT

Consolidated Income Statement	Group 1.1.-31.12.2020	Group 1.1.-31.12.2019	University 1.1.-31.12.2020	University 1.1.-31.12.2019
Revenue	298,848,707.92	288,530,751.56	250,036,944.88	233,010,435.26
Government funding	196,773,000.00	185,704,000.00	150,425,000.00	140,943,000.00
Income from grants	78,906,839.69	86,970,325.85	78,676,404.77	78,450,293.56
Income from business	9,345,844.45	9,728,743.77	8,392,995.79	8,509,519.16
Other income	13,823,023.78	6,127,681.94	12,542,544.32	5,107,622.54
Expenses	-299,223,114.56	-297,250,182.17	-249,927,227.19	-240,186,917.54
Personnel expenses	-203,497,311.19	-196,376,388.74	-171,212,026.31	-157,287,513.54
Depreciation	-6,829,303.39	-6,537,904.86	-5,725,853.47	-5,378,639.83
Group reserve entry	17,874.29	844,295.44		
Other expenses	-88,914,374.27	-95,180,184.01	-72,989,347.41	-77,520,764.17
Operating profit (loss)	-374,406.64	-8,719,430.61	109,717.69	-7,176,482.28
Fundraising				
Income from fundraising and donations	329,769.50	415,545.90	209,279.00	331,516.50
Fundraising other income	0.00	13 126,62	0.00	0.00
Expenses from business activities of the fundraising	0.00	2,022.93	0.00	2,022.93
Other fundraising expenses	-17,340.49	-22,918.40	-10,893.68	-7,980.32
Surplus / deficit	312,429.01	407,777.05	198,385.32	325,559.11
Investment and Financial Activities				
Dividend income	1,968,022.50	1,941,824.20	1,968,022.50	1,941,824.20
Interest income	-33,696.78	3,046.26	-33,315.52	3,025.63
Rental income	200,005.01	207,327.72	0.00	0.00
Profit on sales of investments	6,462,662.70	3,716,216.45	6,200,271.76	3,422,641.75
Other income	507,752.88	419,112.68	462,760.48	387,975.17
Maintenance charges	-50,094.11	-45,540.10	0.00	0.00
Financial charges	-81,583.37	-74,166.70	0.00	0.00
Loss on sales of investments	-1,425,773.51	-473,798.94	-1,413,357.10	-473,103.85
Other investment expenses	-223,646.39	-129,904.76	-162,166.52	-113,263.80
Change in fair value	3,798,079.84	20,037,337.05	3,619,860.14	18,436,689.73
Surplus / deficit	11,121,728.77	25,601,453.86	10,642,075.74	23,605,788.83
Profit (loss) before appropriations and taxes	11,059,751.14	17,289,800.30	10,950,178.75	16,754,865.66
Appropriation				
Change tied-up funds	780,281.68	104,098.56	683,423.15	118,081.55
Change equity funds	-521,319.09	-2,080,222.68	-265,434.94	-706,494.04
Income taxes	-11,921.54	-10,894.83	0.00	-1,644.50
Minority holdings	17,520.35	827,576.71		
NET PROFIT (LOSS)	11,324,312.54	16,130,358.06	11,368,166.96	16,164,808.67

BALANCE SHEET

Assets	Group 31/12/2020	Group 31/12/2019	University 31/12/2020	University 31/12/2019
FIXED ASSETS				
Intangible assets				
Intellectual property rights	494,825.73	473,131.83	469,572.79	444,715.32
Other intangible assets	3,384,633.10	3,787,963.44	3,058,788.58	3,626,756.69
Advance payments	952,810.05	472,150.16	952,810.05	472,150.16
Total	4,832,268.88	4,733,245.43	4,481,171.42	4,543,622.17
Tangible assets				
Land and water areas	300,000.00	300,000.00		
Buildings and structures	45,004.68	46,121.85	45,004.68	46,121.85
Machinery and equipment	14,744,702.85	14,302,351.28	12,414,141.07	12,794,012.71
Other tangible assets	256,790.45	252,289.80	31,068.94	26,568.29
Advance payments and purchases in progress	4,028,724.12	3,351,298.74	2,056,401.27	2,505,992.59
Total	19,375,222.10	18,252,061.67	14,546,615.96	15,372,695.44
Investments				
Holdings in group companies	0.00	0.00	5,289,810.00	5,289,810.00
Receivables from group companies	0.00	0.00	30,000.00	0.00
Other shares and holdings	56,509,247.82	56,109,247.82	55,074,560.19	55,074,560.19
Other long-term investments	161,965,163.11	148,586,307.76	161,965,163.11	148,473,642.51
Total	218,474,410.93	204,695,555.58	222,359,533.30	208,838,012.70
Funds in non-autonomous reserves	15,466,730.49	15,372,819.16	6,078,741.58	5,960,543.16
Total fixed assets	258,148,632.40	243,053,681.84	247,466,062.26	234,714,873.47
CURRENT ASSETS				
Receivables				
Long-term receivables				
Other receivables	271,021.16	847,587.14	0.00	847,587.14
Accrued income	1,932.96	0.00	0.00	0.00
Total	272,954.12	847,587.14	0.00	847,587.14
Short-term receivables				
Trade receivables	11,658,042.32	14,262,562.85	11,636,834.18	14,203,622.47
Other receivables	924,713.28	879,096.41	917,410.94	871,164.18
Accrued income	20,615,696.12	20,724,917.31	15,874,417.36	16,304,143.60
Total	33,198,451.72	35,866,576.57	28,428,662.48	31,378,930.25
Cash and bank receivables	58,488,411.87	45,862,621.63	38,818,757.65	25,505,867.65
Total current assets	91,959,817.71	82,576,785.34	67,247,420.13	57,732,385.04
TOTAL ASSETS	350,108,450.11	325,630,467.18	314,713,482.39	292,447,258.51

Equity and Liabilities	Group 31/12/2020	Group 31/12/2019	University 31/12/2020	University 31/12/2019
EQUITY				
Basic capital	107,368,990.83	104,455,990.83	107,368,990.83	104,455,990.83
Basic capital of Scholarship Foundation	269.10	269.10		
Non-autonomous reserves	6,079,434.59	5,813,999.65	6,079,434.59	5,813,999.65
Other equity of Scholarship Foundation	10,860,042.85	10,599,012.13		
Other statutory reserves	8,993,640.70	9,677,063.85	8,993,640.70	9,677,063.85
Unrestricted reserves	3,712,339.76	3,717,692.80	2,240,329.34	2,086,699.84
Other equity				
Operating capital	35,268,582.32	35,268,582.32	35,268,582.32	35,268,582.32
Translation difference	804.07	5,095.76	0.00	0.00
Retained earnings (loss)	83,214,810.33	67,255,900.22	83,398,362.46	67,411,603.29
Profit (loss) for the financial period	11,324,312.54	16,130,358.06	11,368,166.96	16,164,808.67
TOTAL EQUITY	266,823,227.09	252,923,964.72	254,717,507.20	240,878,748.45
MINORITY HOLDINGS	8,639,548.85	8,657,069.20		
STATUTORY PROVISIONS				
Pension provisions	66,447.75	0.00	0.00	0.00
Other statutory provisions	468,552.67	395,823.30	452,323.30	395,823.30
	535,000.42	395,823.30	452,323.30	395,823.30
GROUP RESERVE	3,524,275.20	3,542,149.49		
LIABILITIES				
Debts in non-autonomous reserves	0.00	146,536.41	0.00	146,536.41
Long-term				
Advances received	5,332,339.00	952,162.00	3,772,339.00	952,162.00
Other creditors	462,774.56	58,909.76	462,774.56	0.00
	5,795,113.56	1,011,071.76	4,235,113.56	952,162.00
Short-term				
Advances received	31,962,529.38	23,654,546.52	27,130,746.26	21,063,234.54
Trade payables	5,064,841.22	5,718,484.47	3,945,985.52	4,121,415.33
Other creditors	8,612,909.44	10,751,240.79	7,471,106.23	9,625,516.42
Accruals	19,151,004.95	18,829,580.52	16,760,700.32	15,263,822.06
	64,791,284.99	58,953,852.30	55,308,538.33	50,073,988.35
TOTAL LIABILITIES	70,586,398.55	60,111,460.47	59,543,651.89	51,172,686.76
TOTAL EQUITY AND LIABILITIES	350,108,450.11	325,630,467.18	314,713,482.39	292,447,258.51

CASH FLOW STATEMENT

Cash flow from operating activities	1.1.-31.12.2020	1.1.-31.12.2019
Profit (loss) before appropriations and taxes	10,950,179	16,754,866
Depreciation and impairment	5,677,533	5,378,640
Other non-payment income and expenses	2,767,329	1,339,340
Change in fair valuec	-3,619,860	-18,436,690
Financial income and expenses	-7,022,216	-5,169,099
Income and expenses in non-autonomous reserves	-417,988	588,412
Change in working capital		
- Change in short-term non-interest-bearing receivables	3,797,855	-2,295,663
- Change in short-term non-interest-bearing liabilities	5,940,506	-2,850,388
Paid direct taxes	0	-1,645
Cash flow from operating activities (A)	18,073,337	-4,692,226
Cash flow from investment activities		
Investments in tangible and intangible assets (-)	-8,637,740	-12,455,091
Received investment grants	3,848,737	3,008,763
Investments	-10,556,814	-2,983,658
Other net income from investments		
- Dividend income from investments	1,968,023	1,941,824
- Net income from investments	5,087,509	3,224,249
Myönnettyt lainat (-)	-30,000	0
Cash flow from investment (B)	-8,320,286	-7,263,913
Cash flow from financing activities		
Increase in equity	2,913,000	
Interest and financial income received	-33,316	3,026
Cash flow from financing for non-autonomous reserves	533,640	-258,949
Cash flow from financing activities (C)	3,413,324	-255,924
Increase (+) / decrease (-) in cash and cash equivalents (A+B+C)	13,166,376	-12,212,062
Cash and cash equivalents at the beginning of the financial period	25,505,868	37,882,905
Cash and cash equivalents at the end of the financial period	38,818,758	25,505,868
Change in cash and cash equivalents	13,312,890	-12,377,038
Cash and cash equivalents in non-autonomous reserves at beginning of period	173,301	8,325
Cash and cash equivalents in non-autonomous reserves at end of period	26,786	173,301
Change in cash and cash equivalents of non-autonomous reserves	-146,515	164,976
Total change in cash and cash equivalents	13,166,375	-12,212,062

CONSOLIDATED CASH FLOW STATEMENT

Cash flow from operating activities	1.1.-31.12.2020	1.1.-31.12.2019
Profit (loss) before appropriations and taxes	11,059,751	17,289,800
Depreciation and impairment	6,829,303	6,537,905
Oikaisu: konsernireservin tuloutus	-17,874	-844,295
Other non-payment income and expenses	2,818,353	1,370,161
Change in fair value	-3,798,080	-20,037,337
Financial income and expenses	-7,323,649	-5,564,117
Income and expenses in non-autonomous reserves	-417,988	588,412
Change in working capital		
- Change in short-term non-interest-bearing receivables	3,838,633	-2,949,662
- Change in short-term non-interest-bearing liabilities	8,601,142	-2,673,196
Interest and other financial expenses paid	-48,874	
Interest and other financial income received	1,959	
Paid direct taxes	-11,922	-10,895
Cash flow from operating activities (A)	21,530,755	-6,293,224
Cash flow from investment activities		
Investments in tangible and intangible assets (-)	-13,155,466	-13,643,692
Revenue from the sale of intangible and tangible assets	133,308	0
Received investment grants	3,848,737	3,008,763
Investments	-10,637,276	-3,196,538
Other net income from investments		
- Dividend income from investments	1,968,023	1,941,824
- Net income from investments	5,418,628	3,623,044
Cash flow from investment (B)	-12,424,047	-8,266,599
Cash flow from financing activities		
Increase in equity	2,915,950	640,406
Interest and financial income received	-33,697	3,046
Interest and fees paid on financial expenses	-48,471	-3,780
Cash flow from financing for non-autonomous reserves	538,786	-259,237
Cash flow from financing activities (C)	3,372,568	380,435
Increase (+) / decrease (-) in cash and cash equivalents (A+B+C)	12,479,275	-14,179,388
Cash and cash equivalents at the beginning of the financial period	45,862,622	60,206,985
Cash and cash equivalents at the end of the financial period	58,488,412	45,862,622
Change in cash and cash equivalents	12,625,790	-14,344,363
Cash and cash equivalents in non-autonomous reserves at beginning of period	173,301	8,325
Cash and cash equivalents in non-autonomous reserves at end of period	26,786	173,301
Change in cash and cash equivalents of non-autonomous reserves	-146,515	164,976
Total change in cash and cash equivalents	12,479,275	-14,179,388

Realisation of quantitative targets 2017-2020

Degrees	Avarage 2017-2020	2020	Target 2017-2020
Doctoral degrees	163	144	150
Master's degrees	1,415	1,509	1,467
Bachelor's degrees	1,190	1,173	1,290

Supplementary research funding (expenditure based), EUR million

Research funding	2017	2018	2019	2020
Total supplementary research funding	62.4	64.3	67.8	67.2
% of total funding	28.6	28.7	28.2	26.9

National competitive research funding, EUR million

National competitive research funding	2017	2018	2019	2020
Academy of Finland	21.7	23.9	26.8	25.5
Business Finland	12.8	11.3	9.2	7.6

International competitive research funding, EUR million

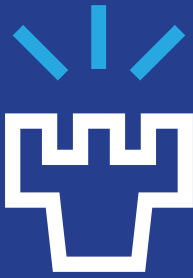
International competitive research funding	2017	2018	2019	2020
EU Framework Programme funding and other qualitative competitive EU funding	5.4	6.3	7.2	8.2
Other foreign funding	2.0	2.3	2.6	1.9

Breakdown of total costs, EUR million

Breakdown of total costs	2017	2018	2019	2020
Personnel expensest	142.4	148.2	157.3	171.2
Depreciation	5.1	4.9	5.4	5.7
Materials, supplies, goods	9.3	9.8	9.8	9.7
Purchases of services	15.3	15.8	16.7	15.8
Rents for premises and other rents	27.4	27.7	28.2	29.1
Travel expenses	6.0	6.8	7.3	1.9
Other expenses	12.4	12.9	15.5	16.5
TOTAL	217.9	226.1	240.2	249.9

Breakdown of income, EUR million

Breakdown of income	2017	2018	2019	2020
Basic funding	141.6	143.3	140.9	150.4
Compensation for teacher training schools	6.1	6.4	6.6	6.8
Supplementary funding	73.1	76.9	85.5	92.8
TOTAL	220.9	226.6	233.0	250.0



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